S.P. File No. 46 1946 —4 /.

Previous reference :

Later reference :

GEN. & REV. SECRETARIAT

BOARD OF INDUSTRIAL PLANNING & CO-ORDINATION

SUBJECT

Survey of industrial research & investigations during 1939-40 1940- &

V 2114 E

INDUSTRIAL RESEARCH BOARD.

MYSORE ECONOMIC CONFERENCE.

BOARD OF INDUSTRIES AND COMMERCE.

Subject:- ~~STOCK OF SCIENTIFIC AND INDUSTRIAL RESEARCH WORK.~~

File No. 34/40-1 of 19 Dated, 15th November 1940.

SUBMITTED

1) Two draft circulars proposed to be issued - one for all the Industrial Concerns both private and Government, the other to the several Heads of Departments as indicated in the draft letter - are herewith put up for favour of kind approval.

K Seetharamaiya
Secretary,
Industrial Research Board
Govt. Electric Factory
Bangalore City.
15/11

OFFICE OF THE
FIRST MEMBER OF COUNCIL
NOV 15 1940
No. 4845

CHAIRMAN)

2) May be submitted in person. I believe the institutions have already reported on a proforma received a statement of the problems which they had in hand

16/11/40
18/11

Submitted
1) Separate office
needs perhaps
24/11/40.

Industrial Research Board.

Submitted

'A'

4) The following departments and Institutions have furnished information relating to the Research work a year back when they were consulted.

1) Mysore Iron and Steel Works.
2) Mysore Geological Department.
3) Mysore Forest Department.
4) Mysore Sandal Oil Factory Department.
5) University of Mysore:
   a) Central College.
   b) College of Engineering.
6) Mysore Agricultural Department.
7) Indian Institute of Science. ✕
8) S.K. Silver Jubilee Technological Institute.

7) Subject
Three copies draft letters put up as per wish
JH 30/12/40

It is proposed to ask the above institutions to kindly furnish the progress of work done, items of research work deleted from the list furnished by them previously with reasons, items of research work proposed to be undertaken during the current year.

The following Institutions or Departments have not been consulted by the Research Board so far.

1) Government Industrial and Testing Laboratory.
2) Government Porcelain Factory.
3) Government Electric Factorry.
4) Government Lac and Paint Works
5) Government Emulsion Plants
6) Government Soap Factory.
7) Government Silk Factory.
8) Mysore Lamp Works.
9) Mysore Glass & Enamel Works.
10) Mysore Stoneware Potteries.
11) Mysore Paper Mills.
12) Mysore Match Factory.
13) Mysore Cement Plant.
14) Mysore Implements Factory.
15) Mysore Spun Silk Mills.
16) Mysore Chemicals and Fertilizers.
17) Bangalore Chemical Manufacturers.
18) The Mysore Tabacco Co.Ltd.,
19) Mysore Sugar Co.Ltd.,
20) Sri Krishnrajendra Mills
21) Mysore Vegetable Oils Products.
22) Amco Ltd.
23) Mysore Chemical Manufacturers,Ltd.,
24) Mysore Coffee Curing Works.
25) Mysore Sericultural Department
26) Government Electtic Laboratory.
27) Government Public Health Laboratory.
28) Government Agricultural Laboratory.
29) Government Forest Research Laboratory.
30) Mysore Tanneries,Ltd.,
31) Silk Filatures. T. Narsipur. 32) Rayon Spinning Mills

5) Discussed with the Chairman on 23-12-40.
D.D.Sc need not be addressed
Draft letters should be modified in such as to bring out B.O. & R.B. is not a Research Body
Questionnaire
Questionnaire
for the benefit of institutions
should be circulated by the B.O. is only interested in researches of general character which yield practical results

It is now proposed to consult all the Government Government-aided, and Private Institutions to furnish information regarding the Research work taken up etc., so that an up-to-date consolidated list of Researches in the state might be prepared to facilitate further action.

The draft letters are therefore put up for favour of approval.

Dated,5th Decr.1940.

Secretary.

6) noted JH 24/12

CHAIRMAN)

I. R. B. 8] INDUSTRIAL RESEARCH BOARD.

NOTE.

Subject Lab. Researches - Compilation

File No. of 19 .

8) Replies received so far have been Compiled & the Statement is herewith put up. Reminders have been issued to the rest of the Institutions who have not yet replied.

For perusal & approval

27/1/41

9) Secretary

I. R. B. 8] INDUSTRIAL RESEARCH BOARD.

NOTE.

Subject Consolidated Industrial Researches.

File No. of 19 .

Submitted.

18) The statement re: Industrial Researches in the State recently prepared in connection with the Board meeting will if approved be got printed for circulation and necessary further action. It may be noted here that similar compilations are also got printed and published for official use only by the Government of India.(vide bulletin put up for kind perusal.) Perhaps 50 copies may be got printed for the present. Since the above subject was deferred in the recent Board meeting, it will be more useful if printed copies are kept ready before the next meeting.

Solicits instructions.

25/3/41

Secretary) 19) Let us see after the subject is discussed at the Bd.

28/3

12) In spite of three reminders including Do reminders the Chief Chemist. I.T.L. has not forwarded the list of researches proposed to be taken up by him. The Board have observed that such of those items which are not —

WD 01345—GPB—750 -7-1-41

(5)

I. R. B. 8] INDUSTRIAL RESEARCH BOARD.

NOTE.

Subject Compilation of information re Ind. Research

File No. of 19

Ind. industries might be eliminated from the list & the rest pursued. To facilitate further action & review, it is proposed to get the statement printed. It is very necessary that the D.T.L. should furnish the proposed items of Researches to be taken up at the Laboratory, so that the Consolidated Statement might be complete. In these circumstances the Govt Dr. will be requested to instruct the Chief Chemist D.T.L to forward the list in duplicate immediately.

13) Yes.

Jh 4/7/41 7/7

14) D of I letter to G. D. pointing Reporter the G.D. to direct the chief chemist to send the list immediately

Jh 10/7/41

15) Issued 10/7

Do. Ho 9

I. R. B. 8] INDUSTRIAL RESEARCH BOARD.

NOTE.

Subject ..... Compilation & information Re: Ind. Researches.

File No. of 19 .

16) The Chief Chemist. I.T.L. has since forwarded the list of researches on 16.7.41.

17) The statement of researches is now made up to date & put up herewith. A short off note is also put up for appl.

18) It seems desirable to get the Survey with the short note, printed, to facilitate further action, as also for distribution among the Concerns, industrialists & others. ~~to schools~~ Similar publications are also issued by the Govt of India.

19) If appd, the Supt. Govt Press will be requested to print 100 Copies.

20) For orders

Jh 25/7/41

21) Yes.

25.7.41

To 22) Supt. Govt. Press.

Requested him to print & supply 100 Copies of the Bulletin to be released

NOTE—Contn. Sheet

WD 01345—GPB—750—7-1-41

23) Appd & issued

Jh 28/7/41

28/7/41.

I. R. B. 8] INDUSTRIAL RESEARCH BOARD.

NOTE.

Subject Compilation of information re: Lust of Researches

File No. of 19

24) Dft of reminder to Supt. Govt Printing re: Proof of the Bulletin sent

Ib
13/8/41.

25) ✓
13/8

26) Telephoned to Govt Press to expedite forwardal of the Proof

Ib
20/8/41.

27) First Proof received on 6.9.41.

28) In connection with urgent work relating to meeting, the Proof could not be returned early.

29) The proof with corrections if returned to the Press on 19.9.41, for second Proof.

Ib
18/9/41.

30) ✓
19/9

31) Final Proof rcd on 4/11/41 & returned on 7-11-41

Ib
7/11

WD 01345—GPB—750 –7-1-41

(Board of Industrial Planning & Coordination)

I. R. B. 8] INDUSTRIAL RESEARCH BOARD.

NOTE.

Subject: Compilation of information re: Industrial Researches.

File No. -8- of 19

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD
No. 628/41-2
Date 24.11.41
one file

Dated, 22nd November 1941.
24

Printed copies of the "Brief Survey of Industrial Researches in the State" have been received from the Press. A copy is herewith submitted for favour of perusal.

Returned
Dr
25/11

If approved, copies will be distributed as follows:-

1) All the Five members of the Board. — 2 copies each.
2) The Director of Geology.
3) The C.C. of Forests.
4) Central College.
5) Engineering College.
6) Mysore Chemicals & Fertilisers, Ltd.
7) Messrs. Khody Ribbon & Allied Industries.

It is a point for orders if a copy of the bulletin may be submitted to the Dewan for kind perusal. Copies will be sent to the Publicity Officer ~~and Correspondents~~ and to Government.

Sufficient

Jh 22/11

Sufficient number of copies may be sent to the Govt & Coll, Boards & the forests 22. 11. 41.

Chairman)
Members

25/11

Jh 26

OFFICE OF THE MINISTER FOR LAW
- NOV 24 1941
No 5154

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD
No. 292/41-2
Date 27/11/41
BANGALORE.

Jh 27/11

Copies sent to all the members letters vide 2 to 7 above P.O. to Govt & to Dew. Secy. for the infmn. of Govt.

Do. The Secy. to the Bd. — forwarded 27 copies for the Bd. Members.

Jh 2/12/41

Issued 5/12/41

Rec'd Copy sent P.S. to Dewan on 11.12.41.

WD 01345—GPB—750 -7-1-41

Draft for kind approval.

To

All the Industrial Concerns - Government and Private.

Dear Sir,

Scientific and Industrial Research. - Stock of.

This draft is revised & issued as per visits.

6/1/41.

As you are aware the imports from foreign countries of several kinds of raw as well as semi-finished materials required by the local industries have become almost impossible as a result of distrubed international situation.

With a view to suggest ways and means for the supply of raw materials required by the several Industrial Concerns both Government and Private, ~~as~~ and also to coordinate the scientific and technical research work carried out by several Government departments and other Institutions, to suggest new problems of Industrial importance and guide research work on such lines as to prevent over-lapping, Government have been pleased to constitute an Industrial Research Board - a central organisation.

It has therefore been considered very necessary to obtain full information regarding the subjects on which Research Work has been undertaken, which have a bearing on Industrial development etc., from the several Institutions.

I therefore request you to be so good as to kindly furnish detailed information on the following lines for being placed before the Board at its next meeting.

1) Name of Department or Industrial Concern or Institution
2) Research Work undertaken.
3) Stage at which each of the investigations referred to item (2) now stands.
4) Results expected.
5) Research Work proposed to be undertaken.
6) Any other remarks.

The favour of an immediate compliance is requested.

Yours faithfully,

Secretary.

Draft for kind approval.

To
1) The Director of Industrial Concerns.
2) The Director of I & C.
× 3) The Director of Sandalwood Oil Factory.
× 4) The Chairman, Iron and Steel Works.
× 5) The Director of Geology.
× 6) The Chief Conservator of Forests.
7) The Chief Electrical Engineer.
× 8) The Registrar, Mysore University.
× 9) The Director of Agriculture.
10) The Director of Public Health.

9) Revised & issued as per circle

6/1/41.

Sir,

Stock of scientific and Industrial Research.

I am directed to request you to be so good as to kindly instruct all the Industrial Concerns or Indtitutions under your control to immediately forward direct to the Board detailed information up-to-date, regarding the existing position of research work of industrial importance that the Institutions have undertaken or likely to undertake from time to time, for being placed before the Board at its next meeting.

The information may kindly be furnished on the following lines.

1) Name of Department or Industrial Concern or Institution.
2) Research Work undertaken.
3) Stage at which each of the investigations referred to in itmm (2) now stands.
4) Results expected.
5) Research Work proposed to be undertaken.
6) Any other remarks.

The favour of an immediate compliance is requested.

I have etc.

Secretary.

Immediate

Subth

E.

MERCE.

Industrial Research Work

of 19 .

The Secretary will have to Kindly meet the Chairman with this file. If convenient this may be done today.

for orders

Jhz
29/11/20

On Monday or Tuesday

Subth

Jhz
3/12

Jhz
29/11

ted by the Chairman, it
e that a few
s Iron works, Geological
ready furnished
Problems of Ind.
h they had on hand
with the Statement of
Kind Perusal.
to have an up-to-
date data re: Ind. Research
work done by in the several
institutions both Private & Govt
the two revised typed Diff Letters
Calling for the inform are perhaps
It is now proposed to issue these
letters to all the Ind. Concerns,
Institutions (Both Private & Govt),
Since only a very few institutions
mostly Govt Concerns have furnished
the inform as indicated in Para
(1) of the note, it may perhaps be

NOTE—Contn. Sheet.

WD 921—GPB—1,500—26-9-28

necessary to take an up to date Stock of Such Research work from all the institutions in order to Compile a List of Researches on Lands Proposed to be taken up by us.

In fact the Dr of Arts has called for similar Consolidated returns for being passed on to the Director, Board of Scientific & Ind. Research, Calcutta, for incorporation in the Annual Ind. Research in India. This reference is still Pending in this Office which is also Putup for Kind perusal & orders

Submitted for orders.

24/11/40. Secretary

I shall explain in person to the Chairman and obtain his orders.

24/11

Government of Mysore.

INDUSTRIAL RESEARCH BOARD.

No. 248-32/40-1 Bangalore, Dated, 6 January 41.

From

K. PARTHASARATHI, ESQ., B.A.,
Secretary, Industrial Research Board,
Mysore Road, Bangalore City.

To

As per List enclosed

Dear Sir,

Subject: Scientific and Industrial Researches - compilation of.

As you are aware, imports from foreign countries of several raw as well as semi-finished materials required by the local industries have become exceedingly difficult as a result of disturbed international conditions.

With a view to suggest ways and means for obtaining raw materials by the several Industrial Concerns both Government and Private, to coordinate the scientific and technical research work carried out by several Government departments and Institutions, to suggest new problems of Industrial and General importance, and guide research work on such lines as to prevent over-lapping, Government have been pleased to constitute an INDUSTRIAL RESEARCH BOARD.

The Board is mainly concerned with researches of Industrial and General importance, rather than researches of a purely academic character.

It has therefore been considered very necessary to have full information regarding the items of Industrial Researches on hand, contemplated etc. from the several Institutions in the State.

I shall therefore be much obliged by your kindly arranging to forward the required information (list in duplicate) under the following heads:

1) Name of Department or Institution.
2) List of Industrial Researches undertaken
   a) up to 1st July 1939.
   b) during 1939-40.
   c) progress in brief.
3) List of new Industrial Researches proposed to be taken up during 1940-41.

This may be treated as IMMEDIATE.

Yours faithfully,

Secretary,
Industrial Research Board.

MYSORE ECONOMIC CONFERENCE.

BOARD OF INDUSTRIES AND COMMERCE.

Subject .....

File No. of 19 .

Director Ind Concerns

(1) Govt Ind & Testing Lab. B'lore — Further Research not finished
(2) Govt Soap Factory
(3) Govt Electric Factory
(4) Govt Porcelain Factory
(5) Govt Silk Factory
(6) Mys Lamp Works.
(7) Mys Glass & Enamels.
(8) Mys Chemicals & Fertilizers.
(9) The Mys Stoneware & Potteries.
(10) Mys Coffee Curing works.

Director. S.O.T

(1) Mys Govt Lac & Paint works. Mysore
(2) S.O.T Govt. Emulsion Plant. Mys.
(3) Emulsion Plant. B'lore.

Chairman M.I.S.W.

(1) Govt Cement Plant. Bhadravati.
(2) Govt Implements Factory. Hassan
(3) Mysore Paper Mills
(4) Mys Match Factory

Dr of Sk

(1) Sericultural Supdt. Mysore
(2) The Mys Chrome Tanning Co Ltd
C.T.I. & C.I.W.

(1) Mysore Spun Silk Mills. Channapatna
(2) Mys Silk Filature. T.N. Pur
(3) S.K. Mills. Mys.
(4) The Mys Manu Co.
(5) Mys Sugar Co.
(6) Mys Vegetable Oils.
(7) Regr. Mysore University.
(8) Bangalore Chemical Mfrs Ltd — Nelson
(9) Mys Chemical Mfrs Ltd — Malleswaram
(10) Amco Ltd. Mys Rd. B'lore

Mys University (7)

NOTE—Contn. Sheet.

WD 921—GPB—1,500—26-9-28

2

Laboratories

(11) Govt Electric Laboratories ✓
(13) Govt Agril " ✓
(15) Govt Public Health " ✓
(14) Govt Forest Research " Ecology ✓
(15) C. I. Workshop Bihar ✓
(16) Xbody Ribbon, Carbon + allied Industries / Bihar

assamese 25/1/41

~~DS~~

5 + 1 ✓

7

21/6/12 2/41 Reports received - 3.

= 34

Government of Mysore.

INDUSTRIAL RESEARCH BOARD.

No. 230-7/40-41 Bangalore, Dated, 6th January 41

From

K. Parthasarathi, Esq., B.A.,
Secretary, Industrial Research Board,
Bangalore.

To 1) The Chairman Inwards ✓
2) Dr. of Geology ✗
3) Chief Conservator of Forests ✓
4) Dr. S. V. T. ✓ 5) Principal, Central College
6) College of Engineering ✓ 7) S.K.S.T. Institute ✓

Sir,

Subject: Scientific and Industrial Research compilation of.

I am directed to invite a kind reference to your letter No. dated addressed to the Board of Industries and Commerce, on the above subject.

I am desired to request you to be so good as to intimate the progress of the investigations or Industrial Researches furnished by you etc. under the following headings.

It is specially requested that all items which are not of direct industrial or general importance may be excluded from the list

1) Name of department or Institution.

2) Progress of Researches or investigations referred to in the statement forwarded by you vide letter mentioned supra.

3) List of Industrial Researches undertaken during the year 1939-40.

4) List of new Industrial Researches proposed to be taken up during the year 1940-41.

Since it is desired to place the information before the Board at the next meeting, I shall be greatly obliged by your sending me the information (list in duplicate) very early.

I have the honor to be,
Sir,
Your most obedient servant,

Parthasarathi
Secretary.

Government of Mysore.

Industrial Research Board,

No.237-6/40-41 Bangalore, Dated, 6th January 1940

From

K. PARTHASARATHI, ESQ., B.A.,
Secretary, Industrial Research Board,
Bangalore.

To 1) Dr. of Sci
2) Dr of Ind. Concerns
3) Dr. of S.S.R. Mysore
4) C.E. Engineering Coll
5) Dr of Public Health
6) Dr of Agriculture

Sir,

Subject: Scientific and Industrial Researches compilation of.

I am directed to request you to be so good as to instruct the Industrial Concerns or Institutions or Laboratories under your control, under intimation to this office, to immediately forward direct to the Board detailed information up-to-date, regarding the existing position of Research work & investigations of Industrial or General importance, which is engaging the attention of the Institutions, for being placed before the Board at its next meeting.

The several Institutions have also been addressed direct to expedite the forwardal of the information, in view of the urgency.

The information may be furnished under the following headings:

1) Name of Department or Institution.
2) List of Industrial Researches undertaken
   a) up to 1st July 1939.
   b) during 1939-40.
   c) progress in brief.
3) List of new Industrial Researches proposed to be taken up during the year 1940-41.

I have the honor to be,
Sir,
Your most obedient servant,

K Parthasarathi

SECRETARY.

TELEGRAPHIC ADDRESS:-
"MYSCOFFEE, CHIKMAGALUR."

CODES USED:-
A B C 5TH EDITION.
BENTLEY'S COMPLETE PHRASE

J. Z. SALDANHA.
MANAGER.

ALL COMMUNICATIONS TO BE ADDRESSED TO THE COMPANY.

The Mysore Coffee Curing Works, Ltd.

Chikmagalur, 9th January 1941.
Mysore State.

Ref. No. 86/misc

The Secretary,
Industrial Research Board,
Bangalore.

Dear Sir,

Subject: Scientific & Industrial Researches - compilation of.

In reply to your letter No.248-32/40-41 dated 5th January 41 I beg to say that this institution does not undertake any Industrial Research work at present.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD, BANGALORE. No. 107 Date 11/1/41

Yours faithfully,

Manager,
The Mysore Coffee Curing Works, Ltd.

Tel. Address, "Agri., Bangalore."
Code: 5th Edition A.B.C.

DEPARTMENT OF AGRICULTURE,

MYSORE STATE.

BANGALORE,

No. ...Hc..373-1523/40-41.

Dated 9th January *194* 1.

FROM

T. G. RAMA IYER, ESQ., B.A.,
DIRECTOR OF AGRICULTURE IN MYSORE,
BANGALORE.

To

The Secretary,
Industrial Research Board,
Bangalore.

SIR,

Re: the compilation of scientific and industrial researches.

With reference to your letter No.237-6/40-41 dated the 6th instant regarding the above subject, I have the honour to state that no industrial researches of importance are carried on in this Department.

I have the honour to be,
Sir,
Your most obedient servant,

for Director ~~of Agriculture~~.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD, BANGALORE.
No. 117
Date 13/1

13/1/41

13/1

THE MYSORE VEGETABLE OIL PRODUCTS LTD.

TELEGRAMS : MYVOP
PHONE : 2137

BANGALORE CITY
10th January 1941.

REF. NO.
L.1.

The Secretary,
Industrial Research Board,
Mysore Road, Bangalore City.

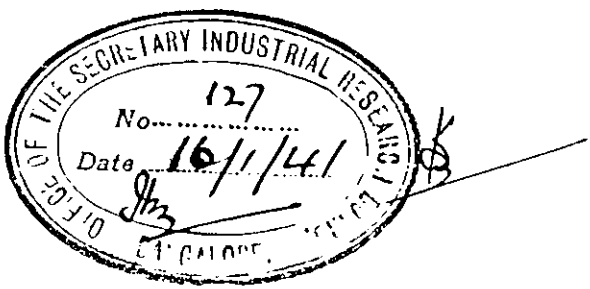
Dear Sir,

With reference to your letter No.248-32/40-41 dated 6th January 1941, we have to inform you that no research of any kind is being undertaken in this institution, which is purely a manufacturing concern.

Yours faithfully,
For The Mysore Vegetable Oil Products Ltd.

VMM:RHL

MANAGER.



GOVERNMENT OF MYSORE

Tel. Address. "SILKS"
Phone No. 282.

In all your Communications please quote
Gl. No. 2810
File No.

SILK WEAVING FACTORY,

Mysore, dated 10. 1. 1941.

Encl. No.

From The Assistant Superintendent,
Government Silk Weaving Factory, MYSORE.

To The Secretary,
Industrial Research Board,
Mysore Road, BANGALORE CITY.

Sir,

Subject: Scientific and Industrial Researches - compilation of.

With reference to your letter No.248-32/40-41 dated 6th January 1941 on the above subject, I have the honour to state that at present we are not engaged in any industrial research work at our factory. Most of the articles that are being used by us are obtained locally. We are however trying to encourage local enterprise for the supply of some of the articles by giving them suggestions as to the quality of the articles required by us. The other important articles that we use are Chemicals and Dyestuffs which I do not think it is possible at present to undertake their manufacture. If the Industrial Research Board is going to take up the manufacture, I have no objection to give a list of the Chemicals and Dyestuffs required by the factory. If required, a detailed proposal for their manufacture shall be given.

Case for this

11/1/41

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD. BANGALORE. No. 108/401 Date 11/1/41

I have the honour to be,
Sir,
Your most obedient servant,

ASSISTANT SUPERINTENDENT.

MAQ:HSC)

GOVERNMENT OF MYSORE

ADDRESS FOR TELEGRAMS:
SANDAL
MYSORE
CODE USED: "BENTLEY'S"

No. 2986/98
Enc.

SANDALWOOD OIL FACTORY,

Mysore, 10th January 1941

The Secretary
Industrial Research Board,
Mysore Road,
Bangalore City.

Dear Sir,

Subject:- Scientific & Industrial Researches.

With reference to your letter Nos. 248-32/40-41, 230-7/40-41 and 237-6/40-41 dated 6th January 1941 on the above - subject I have the honour to state that no research of direct industrial or general importance was undertaken during 1939-40.

The feasibility of preparing and supplying certain B.P. Essential Oils required for the Director of Supply (Drug) Delhi, is now being investigated.

Please request ... to send ... full ... on this ...

14/1

Yours faithfully,

B.S. Iyengar

Officer-in-charge.

OFFICE OF THE SECRETARY INDUSTRIAL ... No. 110 Date 14/1/41 BANGALORE.

Telegrams. "MYSORELAMP" Phone: Office & Factory 2026.

THE MYSORE LAMP WORKS, LIMITED,

OLD TUMKUR ROAD,
YESVANTHAPUR POST.
BANGALORE

YOUR REF.

OUR REF. 158

Dated, 10th Jan. 1941.

The Secretary,
Industrial Research Board,
Mysore Road,
BANGALORE CITY.

Dear Sir,

With reference to your circular letter No.248-32/40-41 dated 6th January 1941, we have to inform you that we have not conducted any research work at our Factory.

SECRETARY INDUSTRIAL RESEARCH BOARD OF THE GOVT. OF MYSORE
No. 119
Date 13/1/41
BANGALORE.

Yours faithfully,
The Mysore Lamp Works, Ltd.,
DIRECTOR.
THE ELECTRICAL INDUSTRIES LTD.
MANAGING AGENTS.

MAS:MCP.

Acknowledged
13/1
13/1

MYSORE CHEMICAL MANUFACTURES LTD.

TELEGRAMS: "ALUM" BANGALORE - - - - CODE: A.B.C. 6TH EDITION

"GARUDACHAR BUILDING" AVENUE ROAD

1269

Bangalore City, 10th January, 1941.

The Secretary,
Industrial Research Board,
Mysore Road,
BANGALORE CITY.

Dear Sir,

Re: Scientific and Industrial Researches -
Your letter No.248-32/40-41 d.6.1.41.

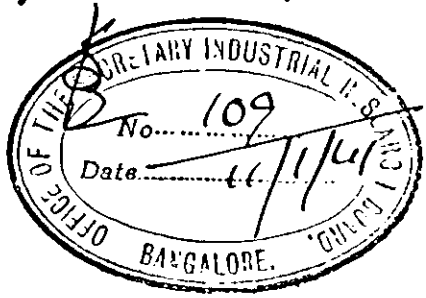
We have not undertaken industrial researches so far and we do not propose to take up any during the year 1940-41.

Yours faithfully,
THE MYSORE CHEMICAL MANUFACTURES LTD.

DIRECTOR

Candidate of Patent

11/1/41



Acknowledged
13/1/41

TELEGRAMS: "MYGLASS"
TELEPHONE OFFICE 2284
WORKS 2500

THE MYSORE GLASS & ENAMEL WORKS, LTD.

Managing Agents
(OGALE GLASS WORKS, LTD.)

Works: NEAR YESWANTPUR RLY. STATION BANGALORE
Registered Office:
34, GANDHINAGAR, BEHIND THE INDIAN BANK, LTD
BANGALORE CITY

Dated 11th January 1941.

Your Reference .....

Our Reference 8685

The Secretary,
Industrial Research Board,
Mysore Road,
Bangalore City.

Dear Sir,

With reference to your kind letter No.246-32/40-41 dated the 6th instant, we have to inform you that we have been fully occupied in bringing our production in the current lines to its full capacity and it was not therefore possible for us to undertake any kind of research work in new lines.

We propose to carry on necessary experiments in the manufacture of suitable glass bulbs, tubes & rods required in the assembling of Electric bulbs, since these articles are now required by the Mysore Lamp Works, Ltd.

Yours faithfully,
For The Mysore Glass & Enamel works Ltd.,
For Ogale Glass works Ltd.,
Managing Agents.

No. 125
Date 15/1/41

Acknowledged.
15/1

GOVERNMENT PORCELAIN FACTORY

ELECTRO-PORCELAIN SECTION

Telegrams :—"PORCELAIN"
Telephone :—2025

MALLESWARAM P.O.
BANGALORE 11th January 1941.

Ref. No. 4547
Encls. 10 Sheets & 1 Report To

The Secretary,
Industrial Research Board,
Mysore Road, Bangalore City.

Dear Sir,

Sub: Scientific and Industrial Researches compilation of.

With reference to your letter No.248-32/40-41 dated 6th January 1941, I enclose herewith the information (lists in duplicate) as desired by you.

Thanking you,

Yours faithfully,

NVR:NRR:ERP)

GENERAL MANAGER.

The Report of the Committee, Heating Elements - perhaps requires Special Consideration. For kind perusal

15/1

Report regarding the Scientific and Technical Research work which has been taken up and is to be taken up in the Government Porcelain Factory, Bangalore.

---;:ooOoo::---

1) Manufacture of Spare Plugs.

Experimental work is under progress for the manufacture of spark plug porcelain. The special features of this porcelain as distinguished from the ordinary porcelain is that it is required to withstand sudden changes in temperature without cracking or chipping and also to remain a good insulator even at increased temperatures. The raw materials required for ordinary porcelain are Kaolin, Quartz and Felspar. Quartz owing to its inversions renders porcelain sensitive to sudden temperature changes and hence has to be replaced by sillimanite for spark plugs. Sillimanite is available in Northern India. After preliminary experimentation it might be necessary to buy a specially designed grinding machine for shaping and a suitable small pug mill, which will cost about Rs. 5,000.

The Government Electric Factory are prepared to manufacture the necessary mettalic parts.

2) "GLOBAR" Heating Elements.

The Electric Tunnel Kiln which is being installed in the Government Porcelain Factory is provided with 36 "Globar" rods in the hot zone (above 1200°C). The rods are imported from America, which stands all alone in the field at present. According to the manufacturers the average life of these rods is only about 1500 working hours and they do not give any guarantee regarding the same. The cost of each rod is about Rs.90/-. so that even at their figure of 1500 working hours a sum of about Rs. 20,000/- has to bespent on the replacement of the rods alone annually; and the success of the working of the tunnel kiln may entirely depend on the life of these rods. It is therefore very necessary that attempts should made from now alone to manufacture these rods which are made from special compositions of silicon carbide. Silicon Carbide is essentially a high

high temperature product of the electric furnace, requiring for its production large quantities of electrical energy and can only be manufactured economically in a place where electric power is very cheap like Mysore. A furnace of less than about 750 KW capacity cannot be operated economically and in such a furnace the average consumption of energy is about 5 KW.hrs. per lb. of silicon carbide. An experimental silicon carbide furnace will have to be at least of 75 to 90 KW capacity. The raw materials for the production of silicon carbide viz. Coke, Sand, Saw-dust and Salt are all easily available.

The manufacture of "Globar" rods considered by itself may proove expensive. But silicon carbide has a widely distributed use as a refractory for the manufacture of bricks, supports, crucibles and furnace linings and as an abrasive. A non-recurring expenditure of about Rs.50,000/- is necessary for the silicon carbide supports for the electric tunnel kiln to replace the saggars. The by-products of the silicon carbide furnace include graphite, for which there is a great demand for manufacturing electrodes and crucibles.

The cost of equipment to carry on the above work on an experimental scale using a 90 KW furnace, including graphite electrodes, induction regulator, panel board and instruments, copper connections and firebricks, and overhead costs about Rs.20,000/-. An application for a grant for this amount was also sent up to the Industrial Research Board set up by the Government of India. It is now learnt that a grant has been given to the Indian Institute of Science, Bangalore to carry on investigation regarding the manufacture of graphite electrodes and crucibles. As the manufacture of silicon carbide is closely connected with this, it would be advantageous to take up the work in co-operation with the Institute.

GENERAL MANAGER,
GOVERNMENT PORCELAIN FACTORY,
BANGALORE.

GOVERNMENT PORCELAIN FACTORY,
BANGALORE.

PROVINCE OR STATE.

A. List of Industrial Research in Progress during the year 1937 - 1938 and completed later.

--

1. Sl. No.	2. Subject.	3. Name and address of Experimental Establishment conducting the work.	4. Brief Description of the work.	5. Laboratory scale or semi-commercial scale, if latter whether any pilot plant used.	6. 1) If any practical results achieved to benefit and existing industry or to bring a new one into existance. 2) Means adopted to bring the resulsts to the notice of industrialists.	7. a) Whether it is proposed to publish the results. b) If already published, reference. c) Any other remarks

N I L.

GENERAL MANAGER,
GOVT. PORCELAIN FACTORY,
BANGALORE.

GOVERNMENT PORCELAIN FACTORY,
BANGALORE.

PROVINCE OR STATE.

A. List of Industrial Research in Progress during the year 1937 - 1938 and completed later.

--

1. Sl. No.	2. Subject.	3. Name and address of Experimental Establishment conducting the work.	4. Brief Description of the work.	5. Laboratory scale or semi-commercial scale, if latter whether any pilot plant used.	6. 1) If any practical results achieved to benefit and existing industry or to bring a new one into existance. 2) Means adopted to bring the resulsts to the notice of industrialists.	7. a) Whether it is proposed to publish the results. b) If already published, reference. c) Any other remarks.

N I L.

GENERAL MANAGER,
GOVT. PORCELAIN FACTORY,
BANGALORE.

Government Porcelain Factory,
Bangalore.

PROVINCE OR STATE.

B. List of Industrial Researches in Progress during the year 1937-38 but abandoned latter on.

1. No.	2. Subject.	3. Name and address of Experimental Establishment conducting the Work.	4. State of Development at the time of abandonment.	5. Laboratory scale or semi-commercial scale, if latter whether any pilot plant used.	6 Reasons for abandoning the work.	7. Remarks.
1.	Manufacture of Suspension type of Insulators.	Ceramic Laboratory, Government Porcelain Factory, Bangalore.	Upto the green goods stage.	Laboratory scale.	For want of electrical testing facilities.	

ARP)

GENERAL MANAGER,
GOVERNMENT PORCELAIN FACTORY,
BANGALORE.

Government Porcelain Factory,
Bangalore.

PROVINCE OR STATE.

B. List of Industrial Researches in Progress during the year 1937-38 but abandoned latter on.

1. No.	2. Subject.	3. Name and address of Experimental Establishment conducting the Work.	4. State of Development at the time of abandonment.	5. Laboratory scale or semi-commercial scale, if latter whether any pilot plant used.	6 Reasons for abandoning the work.	7. Remarks.
1.	Manufacture of Suspension type of Insulators.	Ceramic Laboratory, Government Porcelain Factory, Bangalore.	Upto the green goods stage.	Laboratory scale.	For want of electrical testing facilities.	

ARP)

GENERAL MANAGER,
GOVERNMENT PORCELAIN FACTORY,
BANGALORE.

GOVERNMENT PORCELAIN FACTORY,
BANGALORE.

PROVINCE OR STATE.

C. List of Industrial Researches in progress during the year 1937 - 1938 and continued during the year 1938 - 1939.

1.	2.	3.	4.	5.	6.
No.	Subject.	Name and address of experimental establishment conducting the work.	Brief description of the experiment and stage of development.	Laboratory scale or semi commercial scale: if latter whether any pilot plant used.	Remarks.

N I L.

ARP)

GENERAL MANAGER,
GOVERNMENT PORCELAIN FACTORY,
BANGALORE.

GOVERNMENT PORCELAIN FACTORY,
BANGALORE.

PROVINCE OR STATE.

C. List of Industrial Researches in progress during the year 1937 - 1938 and continued during the year 1938 - 1939.

1.	2.	3.	4.	5.	6.
No.	Subject.	Name and address of experimental establishment conducting the work.	Brief description of the experiment and stage of development.	Laboratory scale or semi commercial scale: if latter whether any pilot plant used.	Remarks.

N I L.

GENERAL MANAGER,
GOVERNMENT PORCELAIN FACTORY,
BANGALORE.

ARP)

GOVERNMENT PORCELAIN FACTORY,
BANGALORE.

PROVINCE OR STATE.

D. New items of Industrial Research in progress, during the year 1938 - 1939.

1. No.	2. Subject.	3. Name and address of Experimental establishment conducting the work.	4. Objective or industrial application of the work.	5. Laboratory scale or semi commercial scale: if latter whether any pilot plant used.	6. Remarks.
N I L.					

ARP)

GENERAL MANAGER,
GOVERNMENT PORCELAIN FACTORY,
BANGALORE.

GOVERNMENT PORCELAIN FACTORY,
BANGALORE.

PROVINCE OR STATE.

D. New items of Industrial Research in progress during the year 1938 - 1939.

1. No.	2. Subject.	3. Name and address of Experimental establishment conducting the work.	4. Objective or industrial application of the work.	5. Laboratory scale or semi commercial scale: if latter whether any pilot plant used.	6. Remarks.
N I L.					

ARP)

GENERAL MANAGER,
GOVERNMENT PORCELAIN FACTORY,
BANGALORE.

Govt. Porcelain Factory,
Bangalore.

PROVINCE OR STATE.

E. List of Industrial Researches contemplated for the year 1939-40.

1. No.	2. Subject.	3. Name and address of experimental establishment where the work is proposed to be conducted.	4. Objective or industrial application of the work.	5. Laboratory scale or semi commercial scale: if latter, whether any pilot plant is intended to be used.	6. Remarks.
1.	Manufacture of Chemical and Aviation Porcelain.	Ceramic Laboratory, Government Porcelain Factory, Bangalore.	Experimental investigations are being conducted, out of Mysore raw materials for the production of bodies of low thermal expansion for Chemical and aviation porcelain.	Laboratory scale.	Silliminite and talc are included in these composition.
2.	Manufacture of Glazed Wall Tiles.		For manufacturing on a commercial scale.	Semi-commercial scale.	
3.	Manufacture of Electro-Porcelain at lower temperature.		For manufacturing on a commercial scale.	Semi-commercial scale.	

ARP)

GENERAL? MANAGER,
GOVERNMENT PORCELAIN FACTORY,
BANGALORE.

Govt. Porcelain Factory,
Bangalore.

PROVINCE OR STATE.

E. List of Industrial Researches contemplated for the year 1939-40.

1. No.	2. Subject.	3. Name and address of experimental establishment where the work is proposed to be conducted.	4. Objective or industrial application of the work.	5. Laboratory scale or semi commercial scale: if latter, whether any pilot plant is intended to be used.	6. Remarks.
1.	Manufacture of Chemical and Aviation Porcelain.	Ceramic Laboratory, Government Porcelain Factory, Bangalore.	Experimental investigations are being conducted, out of Mysore raw materials for the production of bodies of low thermal expansion for Chemical and aviation porcelain.	Laboratory scale.	Silliminite and talc are include in these composition.
2.	Manufacture of Glazed Wall Tiles.		For manufacturing on a commercial scale.	Semi-commercial scale.	
3.	Manufacture of Electro-Porcelain at lower temperature.		For manufacturing on a commercial scale.	Semi-commercial scale.	

ARP)

GENERAL? MANAGER,
GOVERNMENT PORCELAIN FACTORY,
BANGALORE.

TELEGRAMS: "MYSORESILK" T. NARASIPUR.

The Mysore Silk Filatures, Limited

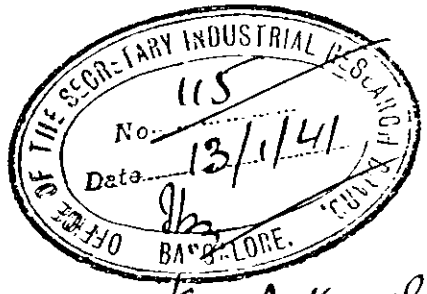
NAIK & Co.
MANAGING AGENTS.

T. NARASIPUR
(MYSORE DISTRICT)

Ref. No. 8611

11th Janaury, 1941

AcK



Acknowledged
13/1 1941

The Secretary,
Industrial Research Board,
Mysore Road,
BANGALORE CITY.

Dear Sir,

We are in receipt of your circular letter No.248-32/40-41 dated 6th instant.

So far as Silk Filatures ~~is~~ are concerned, the raw materials required are cocoons which are not imported from outside, but are procurable inside Mysore State itself, so that there is no difficulty in obtaining them, because of war conditions. There has hence been no necessity for any Industrial Researches for procuring our Raw Material, nor is any Industrial Research proposed to be conducted by us during the year 1940-41.

We may however state for your information that the Government Silk Farm at Channapatna has been conducting some experimental work for improving the quality of cocoons.

Supdt of Seri has already been addressed we may await his reply re: this

13/1

quality of cocoons.

Thanking you,

Yours faithfully,

For The Mysore Silk Filatures Ltd.

for Messrs Naik & Co.

Managing Agents

Arm.

Tel. Address: 'UNIREG'

University of Mysore

No. 18228
Enc.

Office of the University of Mysore,

Mysore 11-1-41 194

FROM

DR. C. S. PICHAMUTHU, B.Sc., PH.D. (GLAS.)., F.R.S.E., F.G.S.,
Offg. Registrar, University of Mysore,
Mysore.

To

The Secretary,
Industrial Research Board,
Mysore Road, Bangalore City.

Sir,

I am directed to acknowledge the receipt of your letter No. 248-32/40-41, dated the 6th January 1941, requesting certain information regarding the establishment of an Industrial Research Board and to state that the information has been called for from the colleges, and that the same will be furnished to you on receipt of their reply.

THE SECRETARY INDUSTRIAL RESEARCH BOARD OFFICE BANGALORE. No. 120 Date 13/1/41

13/1/41

13/1

I have the honour to be,
Sir,
Your most obedient servant,

S. Kappanna
Offg. Registrar.

P.11/1.

The Mysore Spun Silk Mills, Ltd.

TEL. ADDRESS: "SPUNSILK"
CODE USED: BENTLEY'S SECOND

CHANNAPATNA.
(MYSORE STATE)

Ref. No. 270

Dated 12th January 1941.

K. Parthasarathy, Esq.,B.A.,
Secretary, Industrial Research Board,
Mysore Road, Bangalore City.

Dear Sir,

Subject:- Scientific and Industrial Researches.
Compilation of.

With reference to your letter No: 248-32/40-41 dated the 6th January 1941, we write to inform you that we are manufacturing spun silk yarn, noils and noil yarn out of silk waste and have not any items for research work.

We would however suggest to the Research Board the taking up of the question of manufacturing in India, Soaps, bobbins, Leather Sheets, paper tubes, Travellers and other machine parts which have become difficult to obtain in India after the war.

Yours faithfully,
For The Mysore Spun Silk Mills, Ltd.,

Manager.

RS:TSS)

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD, BANGALORE. No. 113 Date 1371

Acknowledged

1371/41

1371

TELEPHONE. NO. 2133

FACTORY:
MANDYA (MYSORE STATE)

THE MYSORE SUGAR COMPANY, LTD.

TEL. ADD.:
"MYSUGAR"
CODES USED:
A.B.C. 5TH EDN. & BENTLEY'S

"SANTHI BHAVAN"
SESHADRI ROAD

REF. NO. A-5/ 5756

BANGALORE, 13th Jan. 19 41.

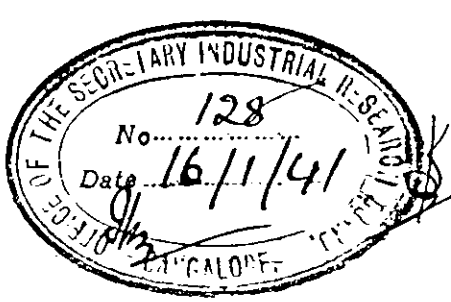
The Secretary,
Industrial Research Board,
Mysore Road,
BANGALORE.

Dear Sir,

Scientific and Industrial Researches--compliation of.

We thank you for your letter No. 248/32/40-41 dated the 6th January 1941. In reply, we have to inform you that our factory has not carried on any researches of industrial and general importance.

A certain amount of research has been carried on in our Distillery, detailf of which have been published in Scientific Journals. At the present moment, these are rather of an academic nature.



Yours faithfully,
THE MYSORE SUGAR CO. LTD.

M. R. Rangaswamy
SECRETARY.

TRR.

TELEPHONE NO. 431

MYSORE GOVERNMENT LAC & PAINT WORKS.

N. K. RANGA RAO Esq, B.Sc., A.I.I.Sc.,
OFFICER-IN-CHARGE.

Ediga Extension,
MYSORE.

Our Ref. No. 1698.

Date 13th Jan. 1941.

Enc.

To

The Secretary,
Industrial Research Board,
Mysore Road,
Bangalore City.

Sir,

Subject:- Scientific and Industrial Researches- compilation of.

With reference to your letter No. 248-32/40-41 dated 6th Jan. 1941, I have the honour to furnish below, the information required.

1. Name of Institution. — Mysore Government Lac & Paint Works.

2. List of Industrial Reseraches under taken

(a) Upto Ist July 1939. — Manufacture of Oil Paints utilising the Local raw materials such as Ochres etc.

(b) during 1939-40. — (1) Manufacture of Oil Paints in all popular shades of colours.

(2) Manufacture of Printing ink.

(3) Manufacture of special Paints.

(c) Progress in brief. — Formulae for oil paints in 15 different popular shades have been worked out. The manufacture of these paints has been taken up and supplies are being made to the Mysore State Railway and other Government Departments and the Market.

Manufacture of acid proof and alkali proof paints is taken up and supplies are being made to the Market.

P.T.O.

Investigation on the manufacture of printing ink is on hand. It is hoped that the product would be put on the market in about two months time.

3. List of new Industrial Researches proposed to be taken up during the year 1940-41.

(a) Manufacture of Shellac-nitrocellulose lacquers.

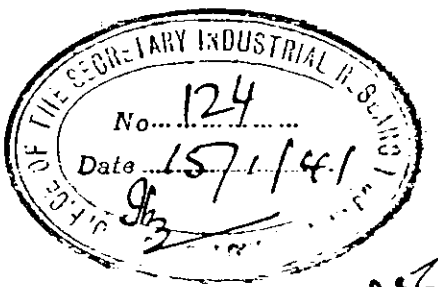
(b) Manufacture of Shellac moulding powder.

(c) Manufacture of pigments chromium-oxide and lead chromates in different shades from sodium dichromate that will be manufactured by Govt. Bi-chromate Factory. These pigments will be used in the manufacture of paints.

(d) Manufacture of aluminium paint and varnish paints.

I have the honour to be;
Sir,
Your most obedient Servant.

N. K. Nanga Rao
Officer-in-charge.



Acknowledged
15/1

Industrial Research Board,

No. 386/401 Bangalore, Dated, 13-1-1941.

To

The Officer in Charge,
Sandalwood Oil Factory,
Mysore

Dear Sir,

Subject: Scientific and Industrial Researches.

With reference to your letter No.2586/98. dated 10th January 1941 on the above subject, I request you to let me know the details of several ~~kinds of~~ Essential Oils the manufacture of which is being investigated, in your factory. The present stage of the investigation with other details may also be noted in your reply.

Yours faithfully,

Secretary,
Industrial Research Board.

Industrial Research Board.

No. 3087/401 Bangalore, Dated, 13th Jan y. 41.

To

The Assistant Superintedent,
Government Silk Factory,
Mysore.

Dear Sir,

Subject: Scientific and Industrial Researches
Compilation of.

With reference to your letter No. 2810 dated 10th January 1941 on the above subject, I request you kindly to send me the list of the Chemicals and Dyestuffs required by the factory. As mentioned in your letter, detailed proposals for their manufacture may also be forwarded very early.

Yours faithfully,

Secretary,
Industrial Research Board.

Industrial Research Board.

No. 3087/401 Bangalore, Dated, 13th Jan y. 41.

To

The Assistant Superintedent,
Government Silk Factory,
Mysore.

Dear Sir,

Subject: Scientific and Industrial Researches Compilation of.

With reference to your letter No.2810 dated 10th January 1941 on the above subject, I request you kindly to send me the list of the Chemicals and Dye-stuffs required by the factory. As mentioned in your letter, detailed proposals for their manufacture may also be forwarded very early.

Yours faithfully,

Secretary,
Industrial Research Board.

Telephone : 2126.

GOVERNMENT OF MYSORE.

No. 1007

Encl. 1.

OFFICE OF THE PRINCIPAL,
SRI KRISHNARAJENDRA SILVER JUBILEE TECHNOLOGICAL INSTITUTE, BANGALORE.

Dated 13th January 1941.

FROM

B. K. MURTHY, ESQ., B.E. (MECH.), M.Sc. TECH., A.M.C.T.,
Principal, Sri Krishnarajendra Silver Jubilee Technological Institute, Bangalore.

TO

The Secretary,
Industrial Research Board,
Bangalore.

SIR,

Sub: Scientific and Industrial Research - Compilation of.

With reference to your circular letter No.230-7/40-41 dated6th January 1941, I have the honour to enclose herewith a brief report on the work done at this Institute.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD
126
No.....
Date 15/1/41
BANGALORE. CIVIL

I have the honour to be,
Sir,
Your most obedient servant,

Acknowledged 15/1

PRINCIPAL.
13/1/41.

KVG.

SRI KRISHNARAJENDRA

Silver Jubilee Technological Institute, Bangalore.

Scientific and Industrial Research - compilation of.

1. Name of Institution - Sri Krishnarajendra Silver Jubilee Technological Institute, Bangalore.

2. In co-operation with the Department of Industries and Commerce, an attempt was made to evolve a suitable and economical hand sizing appliance that may be suitable for employment by cottage weavers and small scale factory owners. The appliance is complete. The machine is being tried at the Institute to test its efficacy. It is proposed to test this under actual working conditions by lending this to cottage weavers and obtain their reports regarding the utility of the appliance. As such, the work ~~is~~ being still in progress, ~~and~~ no final report can be submitted at this stage.

It was proposed to manufacture a suitable small size power driven sizing unit that may be economical for small scale cotton weaving factories. As the arrangements for manufacturing such a machine could not be effected with local firms, the matter is being deferred by the Director of Industries and Commerce.

13/1/41.

TELEPHONE: NO 2152 TELEGRAMS: 'MYSTOBACCO

The Mysore Tobacco Company, Limited.

DISTRICT BOARD BUILDINGS. KEMPEGOWDA ROAD.
BANGALORE CITY

No.G/M./71. 13th Jan. '41

The Secretary,
Industrial Research Board,
Mysore Road, Bangalore City.

Dear Sir,

With reference to your circular letter No.248-32/40-41 dated the 6th inst., we write to intimate that ours is an agricultural Concern and we have been investigating the problem of seeds, and stems (mid-ribs).

Yours faithfully,
For The Mysore Tobacco Co., Ltd.,

V. Nataraja
Secretary.

Dks)

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD
139
Date 19/1/41

ENCLO.....

IN REPLY REFER TO No. 4953.

Telegraphic Address: "GOMED"

GOVERNMENT OF MYSORE

ELECTRICAL DEPARTMENT

OFFICE OF THE GOVERNMENT ELECTRIC INSPECTOR,
ELECTRIC LABORATORY,

Bangalore. 15th January 1941.
(MYSORE, S. INDIA.)

The Secretary,
Industrial Research Board,
Mysore Road,
BANGALORE CITY.

Dear Sir,

Compilation of Scientific & Industrial Researchers.

With reference to your No. 248-32 of 40-41 dated 6-1-41, I wish to request you to send the lists in duplicate under the three following heads stated by you.

In this connection, I wish to state that the Electric Laboratory is at present engaged in the work of testing and calibrating of measuring instruments, rewinding of motors and repairing other miscellaneous electric appliances.

Yours faithfully,
for L. Iswara Dasa
15/1/1941
GOVERNMENT ELECTRIC INSPECTOR.

LID-ARNS-KVN.

OFFICE OF THE SECRETARY INDUSTRIAL R.S. BOARD
No. 129
Date 16/1/41
BANGALORE.

"TELE: " IMPLEMENTS "

THE MYSORE IMPLEMENTS FACTORY

(Government of Mysore)

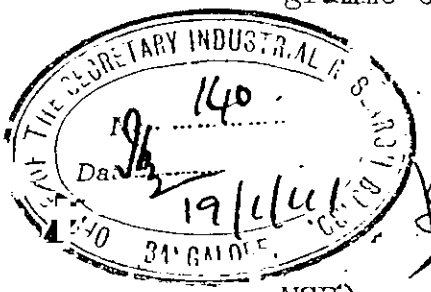
P. O. HASSAN (Mysore State)

Ref No. 3085 16th January 1941.

The Secretary,
Industrial Research Board,
BANGALORE.

Dear Sir,

With reference to your letter No.248/32/40-41 dated 6th January 1941, we have to inform you that we have not instituted a research department in the Factory and that no programme of researach is under contemplation at present.



Yours faithfully,
FOR THE MYSORE IMPLEMENTS FACTORY,

GENERAL MANAGER.

'MSP')

GOVERNMENT OF MYSORE

ADDRESS FOR TELEGRAMS:
SANDAL
MYSORE
CODE USED: "BENTLEY'S"

No. 2658/98
Enc.

SANDALWOOD OIL FACTORY,
Mysore, 16th January 1941.

To

The Secretary,
Industrial Research Board,
Bangalore.

Dear Sir,

Subject:-- Scientific and Industrial Researches.

In reply to your letter No.306/40-1 dated 13th January 1941 on the above subject, I write to state that as per letter received from the Director of Production (Drugs and Dressings), the manufacture of the following oils is being investigated.

1. Oleum Anise B.P.
2. Oleum Menth Piperata B.P.
3. Oleum Juniperi B.P.
4. Clove Oil.

At present, we are finding out the sources of supply of raw material for the said oils, and if supplies are secured, the oils will be distilled to see whether they will satisfy B.P. and whether the distillation is an economical proposition.

Yours faithfully,

B.S. Iyengar

Officer-in-charge.

Telephone No. 2110

REPLY REFER TO
No. 14714.
ENCLO.

Telegraphic Address:
"GOMED"

CODES USED
BENTLEY'S, LIEBER'S
A. B. C. 6TH EDITION.
BUSINESS TELEGRAPHIC CODE

GOVERNMENT OF MYSORE

ELECTRICAL DEPARTMENT

OFFICE OF THE CHIEF ELECTRICAL ENGINEER,

Bangalore, 16-1 Jan 1941.

(MYSORE, S. INDIA.)

From

S. G. FORBES, ESQ., E.E., B.Sc., E. & M.E., MEM. A.I.E.E.,
CHIEF ELECTRICAL ENGINEER
TO THE GOVERNMENT OF MYSORE,
BANGALORE.

To

The Secretary,
Industrial Research Board,
Department of Industries & Commerce,
Bangalore.

S i r,

COMPILATION OF SCIENTIFIC AND INDUSTRIAL RESEARCHES-

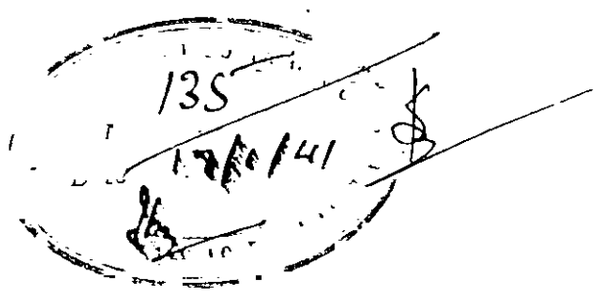
With reference to your letter No. 237-6/40-41 dated 6th January 1941, I have the honour to state that no investigations of a general nature are being carried out by this Department and as such, there is no detail information to be forwarded to the Industrial Research Board as requested by you.

I have the honour to be,
S i r,
Your most obedient servant,

R. Ramaswamy

CHIEF ELECTRICAL ENGINEER.

BND-MRA-SK.
15-1-41.



Telegrams: "MYCHROME" Telephone: 2473

The Mysore Chrome Tanning Co., Ltd.

MYSORE ROAD : : BANGALORE

Ref. No. 1517 Dated 18th Jany. 1941

The Secretary,
Industrial Research Board,
Mysore Road, Bangalore.

Dear Sir,

With reference to your Circular letter No.248-32/40-41 dated 6th January 1941, we wish to furnish hereunder the required information:-

1. The Mysore Chrome Tanning Co., Ltd., Bangalore.
2. The Company has started working only from 19th August 1940.
3. It is under contemplation to examine the possibility of manufacturing glue out of Hide fleshings and cuttings.

Yours faithfully,
For The M.C.T. Co.Ltd.

Secretary

No. 147 Date 22/1/41 No. 334 22/1

Tel. Address:— **" SERI "**
Phone No. **358.**

DEPARTMENT OF SERICULTURE
MYSORE STATE

No. 4243
Enc. 1 cover

MR. H. S. GOVINDA RAO, B.A.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD. BANGALORE. No. 150. Date 22/1/41

Office of the
Superintendent of Sericulture in Mysore,
Manantody Circle, Viceroy Road,

Mysore, 16th January *1941.*

No. 332 A 40-41 A Govindarao/20. 22/1

K. PARTHASARATHI, ESq., B.A.,
Secretary, Industrial Research Board,
Mysore Road,
Bangalore City.

Dear Sir,

I am in receipt of your No.248-32/40-41 dated 6th instant calling for information regarding the Scientific and Industrial Researches. In this connection, I wish to say that there is no separate Sericultural Research Station in Mysore and as a matter of fact in India.

Items of Experimental work to find out ways and means of reducing the cost of production of silk in Mysore are undertaken in some of the Government Silk Farms in Mysore State and this work is carried on as part of the routine work in the Farms. S o m e items of research work have been undertaken in the Government Silk Farm at Channapatna as Government of India sanctioned some funds for recurring expenses connected with these items of research.

I enclose herewith a statement in duplicate re: the items of experimental work carried on in the Silk Farms in Mysore State.

Yours faithfully,

Superintendent of
Sericulture in Mysore.

Rly 20/1/41

GRS 2).

TELEGRAMS "CHEMI" MYSORE.

The Mysore Chemicals & Fertilisers, Ltd.,

Codes :
A.B.C. SIXTH EDITION &
BENTLEY'S SECOND PHRASE CODE.

1128, VANIVILAS ROAD,

Mysore, 20th Janry. *1941.*
21

5123/2

The Secretary,
Industrial Research Board,
Mysore Road, Bangalore City.

Acknowledged 29/1

Dear Sir,

Scientific & Industrial Researches.

Your letter No.248-32/40-41 dated
4th January 1941.

With reference to your above letter, we are sending herewith in duplicate a statement furnishing the information regarding the Industrial Researches.

Kindly acknowledge receipt.

Yours faithfully,
For the Mysore Chemicals & Fertilisers,Ltd.,

M.K. Ramiengar

Secretary & General Manager.

gkn

List of Industrial Researches.

1.	Name of the Department or Institution.	The Mysore Chemicals & Fertilisers,Ltd
2.	List of Industrial Researches undertaken:-	
	Up to end of July '39.	Nil.
	During 1939-40.	Manufacture of Superphosphates & Phosphoric Acid. Manufacture of Mixed Fertilisers. Manufacture of Ammonium Salts -- Ammonium Nitrate, Ammonium Chloride, Ammonium Carbonate and Ammonium Phosphate.
	Progress in Brief.	Laboratory scale experiments have been completed and the manufacturing operations on a small scale have been started.
3.	List of New Industrial researches proposed to be taken during the year 1940-41.	Manufacture of Nitric and Hydrochloric Acids.

20·1·41

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1.	Name of the Department or Institution.	The Mysore Chemicals & Fertilisers, Ltd
2.	List of Industrial Researches undertaken:-	
	Up to end of July '39.	Nil.
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	Progress in Brief.	Laboratory scale experiments have been completed and the manufacturing operations on a small scale have been started.
3.	List of New Industrial researches proposed to be taken during the year 1940-41.	Manufacture of Nitric and Hydrochloric Acids.

20/1/41

- Scientific and Industrial Researches
Compilation of.

Letter No.248-38/40-41 dated 6th January 1941 from the Secretary, Industrial Research Board, Mysore Road, Bangalore City.

1. Name of Department or Institutions.- Department of Sericulture, Mysore. Central Silk Farms at Mysore, Channapatna, Kolar, Siddaghatta, Kunigal and Mugur.

2. List of Industrial Researches under taken.-

a) Up to 1st July 1939.

(a) The following experiments connected with mulberry cultivation, rearing of worms and grainage technique were newly taken up during the year.--

Mulberry Cultivation.-

1) Cost of collection of mulberry seed and cost of raising seedlings and saplings.

2) Methods of treating mulberry seeds before sowing so as to obtain the best possible results.

3) Sowing of mulberry seeds broad cast and in rows.

4) Space required in the nursery for raising saplings from seedlings.

5) The most suitable age of seedlings for raising bush mulberry.

6) Methods of transport of seedlings and cuttings from seedlings.

7) Destruction of mulberry stem borer.

8) Propagation of mulberry obtained from Bengal and other places in India.

9) Propagation of seedlings from seeds obtained from Jammu, Bengal and the Punjab.

Silk Worm Rearing.-

1) Rearing of Barapalu, a univoltine race of Bengal, elimination of pebrine from the same and improvement by selection.

2) Cross-breeds between Mysore race and Barapalu race.

3) Rearing of Turkish race to obtain pure strain.

4) Cross-breeds between Mysore race and Turkish race.

5) Rearing of a French race to eliminate pebrine.

6) Cross-breeds between Mysore race and the French race.

7) Rearing of worms from hibernating layings of pure Mysore race.

8) Rearing of worms from hibernating layings of pure foreign races.

G r a i n a g e.-

1) Determining the number of eggs laid by a female moth during several seasons of the year.

2) Relation between the soil of mulberry garden and the number of eggs laid by moths from seed cocoons produced in these gardens.

3) The number of unfertilised, unhatched and hibernating eggs during several seasons of the year.

4) The percentage of hatching in a day in Mysore and cross breeds during several seasons of the year.

5) Number of layings per ounce of seed during several seasons of the year.

6) Refrigeration of hibernating layings of pure Mysore and pure foreign races.

7) Artificial hatching of hibernating layings of pure Mysore and pure foreign races.

8) Relationship between climatic conditions and driage of cocoons.

(b) The following experiments which had been started during the previous years were contd:--

1) Manurial experiments and correlated rearings.

2) Grafting experiments and correlated rearings.

3) Quality and quantity of leaves from tree and bush mulberry.

4) Quality and quantity of leaves from bush ~~mulberry~~ of ordinary cuttings, seedling cuttings and seedlings.

5) Quality and quantity of leaves from bush mulberry planted with different spacings and in different methods.

6) Improving the pure Mysore and pure foreign races by conducting cellular rearings and by continuous selection.

7) Quality of cocoons in pure foreign races - in mass rearings and in cellular rearings.

8) Elimination of pebrine in pure foreign races.

9) Behaviour of pure foreign races and their crosses with Mysore during several seasons of the year.

10) Bakelite rings and ordinary tin rings.

11) Paper suited for egg cards.

12) Effect of gentle brushing of eggs just before hatching on the percentage of hatching in a day.

(c) Research Work.-

(1) Research work on the refrigeration of multivoltine seed cocoons.-

The Government of India sanctioned recurring expenditure for this item of work which was started in April 1937 in Channapatna S i l k Farm. Six series of experiments were conducted to end of March 1939 and the work was continued in the summer months of April and May 1939 also. The report of the research work has been prepared and will be placed before the Imperial Sericulture Committee at the next meeting. It has been found that multivoltine seed cocoons can be refrigerated with safety to resulting moths and worms for periods varying from three to six days, that cocoons on the 6th day of mounting can be refrigerated for three days only while those on the 9th and 10th days of mounting can be refrigerated for six days. These results will be further tested on a field scale in the Government and aided grainages.

(2) Research work on the refrigeration of hybrid layings (Indo-Japanese)

This work was started in Government Silk Farm, Channapatna, in July 1937 with the grant given by the Government of India towards recurring expenditure. The work was completed at the end of June 1939. The report on this research work will be placed before the next meeting of the Imperial Sericulture Committee. It has been found that the 48 hours old hybrid layings can be refrigerated with safety for a maximum period of 20 days as in the case of multivoltine layings and that these layings can stand the cold much better than the pure multivoltine layings. The results will be further tested on a field scale in the Government and aided grainages.

NEW ITEMS OF RESEARCH WORK.

(3) Recurring expenditure for two new items of research work on the refrigeration of seed cocoons and layings obtained from the same (combined) and on the hibernation of univoltine and bivoltine eggs had been sanctioned by the Government of India and these items of work ought to have been started early in 1938-39. But, as there was considerable delay in obtaining refrigerators and other equipment from abroad, the research work on the refrigeration of seed cocoons and layings from the same (combined) was started early in April 1939 and that on the hibernation of univoltine and bivoltine eggs was started early in July 1939.

(d) Field Scale Experiments.-

a) A few selected sericulturists in the villages have been induced to raise bush mulberry from seedlings and cuttings from seedlings supplied free of cost from Government Farms to test the quality and quantity of leaves obtained from such gardens.

b) Mulberry saplings raised from seedlings

seedlings have been planted as trees both in Government Farms and by private s e r i-culturists to test the behaviour of such trees.

c) Bush mulberry has been raised from seedlings only to a large extent in all the mulberry gardens attached to silk farms in the State.

d) Private sericulturists have been supplied s with mulberry seed and have been induced to raise their own seedlings for extending their mulberry gardens.

e) Ground-nut oil cake was stocked in all the Government Farms and sold to sericulturists for use in the mulberry gardens in rotation with farm yard manure. Many people have used a mixture of ammonium sulphate and ground-nut oil cake for mulberry gardens with satisfactory results.

f) White paper 12 lbs. and 14 lbs. has been used for egg cards in two Government - Grainages to find out the comparative cost and advantages.

g) Twelve "Sex-Finder" machines were got manufactured and supplied to the Government Grainages to test them on a large scale. It is found that the machine has yet to be perfected as the percentage of errors varied from 13 to 15 per cent. Suitable alterations are being made.

h) The results of the research work on the refrigeration of multivoltine layings were - communicated to all the Government and aided grainages for trial on a large scale. T h e year was favourable for conducting the tests as the rainfall was scanty and unequally distributed. A large quantity of laying was refrigerated in Government and aided grainages and timely supply of layings was made. It was - found that layings 48 hours old refrigerated for over 20 days did not give satisfactory - results.

i) The improved charka was demonstrated in the houses of the reelers who supplied cocoons, labour, fuel, etc. The reelers have realised the advantages of installing the - improved charka, have found ready sales and good demand for silk produced in these charkas and have arranged to install such charkas.

j) The production of improved silk waste in indigenous reeling establishments has been demonstrated by the Mysore Spun Silk Mills, Ltd., Channapatna, and many reelers have been producing improved silk waste.

k) The proper training and pruning of old/ mulberry trees in the backyards of houses and in the field margins in sericultural villages was demonstrated by the staff of the Department with satisfactory results.

b) During 1939-40. & c) Progress in brief.

The following items of research work which had been undertaken with the financial assistance (towards recurring expenditure only) of the Government of India were concluded during the year and detailed reports were placed before the Imperial Sericultural Committee at the Meeting held on 18th December 1939 at Mysore.-

1. Research work on the refrigeration of multivoltine seed cocoons.

2. Research work on the refrigeration of hybrid layings.

The results obtained in the above two items of research work and in the research work on the refrigeration of multivoltine silk worm eggs were tested on a field scale in Government and aided grainages with satisfactory results.

The following two research schemes the recurring expenses relating to which are being met from the Government of India grants were in progress at the Government Silk Farm, Channapatna.

1. Hibernation of imported univoltine and bivoltine silk worm eggs.

2. Refrigeration of seed cocoons and eggs from the same (combined).

The main object of the first scheme is to study the conditions necessary to secure uniform and complete hatching and good rearing results from the silk worm eggs of the foreign races of worms. The experiments were started in July 1939 and two series of the experiments were completed during the year under report. The scheme has been sanctioned for a total period of 4 3 years and has to continue for 2 more years. The results obtained so far indicate that silk worm eggs of univoltine and bivoltine races kept at normal room temperature for a period of 30 days after laying and hibernating-ed for a period of 120 days at a temperature of 32° to 40° F. and the rearing period so adjusted as to fall between September and January give a hatching of 75 to 90% and good results in r e a r i n g.

The research work on the refrigeration of multivoltine silk worm eggs had indicated that two day old eggs may be stocked with safety in the refrigerator for 20 days, and the research on the refrigeration of multivoltine seed cocoons had indicated that seed cocoons on the 9th day of mounting and the penultimate day of the emergence of moths can be safely refrigerated for 6 days. A scheme of research for determining the maximum period for which eggs laid by moths whose emergence had been delayed for the maximum safe period can be safely refrigerated was taken up, the Government of India having agreed to met the recurring expenses of the scheme for a period of two years. The experiments were started at the Government Silk Farm, Channapatna in April 1939 and will be completed in April 1941. The results obtained so far show that the safe period for delaying the emergence of moths and the safe period for delaying the hatching of the eggs can be combined in certain cases only.

In addition to the research schemes mentioned above the following items of experimental work which were started in previous years were continued during the year.-

1. Manurial experiments in regard to mulberry

mulberry and correlated rearings.

2. Grafting experiments with ✓ mulberry and correlated rearings.

3. Quality and quantity of leaves from tree and bush mulberry.

4. Quality and quantity of leaves from bush mulberry raised from ordinary cut tings, seedling cuttings and seedlings

5. Quality and quantity of leaves from bush mulberry planted with different - spacings and in different methods.

6. Improving the Mysore and foreign races of worms by conducting cellular rearings and by continuous selection.

7. Quality of cocoons in foreign races in mass rearings and in cellular rearings.

8. Elimination of pebrine in foreign races.

9. Behaviour of pure foreign races a n d their crosses with the Mysore race during the several seasons of the year.

10. Effect of gentle brushing of eggs just before hatching on the percentage of - hatching in a day.

Papers showing the results obtained so far in these experiments and the action taken to make use of the results in Government Farms and disseminate them among the sericulturists were prepared by some of the Officers of the Department and submitted to the First All India Sericultural Conference held at Bangalore in December 1939. In co-operation with the sericulturists who are in the vicinity of the Government Farms and who are convinced of the efficiency of the ✗ improved methods recommended field scale trials of the - experiments are being conducted.

In connection with the experiments that are being conducted to improve the local varieties of mulberry special mention may be made of the grafting experiments recently taken up in Channapatna Farm. This work has been undertaken to combine the good qualities of the local mulberry with those of the foreign varieties, a number of which suited to tropical climates have been obtained from Japan, Korea, and China and have been planted in Government Farms. A number of grafted plants have already been raised to study their behaviour and compare the - yields obtained in them with the local varieties. The results obtained so far are encouraging. The grafted plants bear very much bigger leaves than either the local mulberry or the pure foreign - varieties grown here, by themselves, and yield mulberry leaves nearly twice as much as the quantity obtained by the local seedling bush. Raising bush mulberry from local seedlings is by itself an improvement as compared with the existing practice among the sericulturists in Mysore of raising bush mulberry from ordinary cuttings as the bushes raised from the seedlings give about 20% more leaves of better quality than the bush mulberry raised from ordinary cuttings. As compared with the yield that is being obtained from the bushes raised from the ordinary cuttings the yield of leaves from the -

the grafts is nearly 3 times more.

It is necessary to carry on the experiments relating to these grafts on a regular basis to determine the (1) most suitable method of granting (2) the varieties suitable to local conditions (3) the season or seasons during which the grafting work - has to be undertaken (4) the yield and the quality of the leaves produced and (5) the suitability of the leaves for the silk worms reared. The work is slow and will have to extend over a period of some years. A scheme of research relating to these - grants has been prepared and sent up for consideration at the ensuing meeting of the Imperial Sericultural Committee to come off in December 1940 and for provision of funds by the Government of India to the extent of about Rs.3,500/- per annum for a period of 5 years for carrying on the experiments. The results of the experiments are expected to go a long way to increase the output of mulberry leaves per unit area of bush garden and to reduce the cost of production of mulberry leaves and consequently of reeling cocoons and silk.

A good deal of attention was devoted during the year for the study of the methods to be employed for improving the quality and the quantity of the seed cocoons obtained from the Mysore as well as the foreign races of silk worms. This work has been necessary particularly in connection with the foreign races of silk worms owing to the difficulty experienced in recent years in importing fresh silk worm eggs of the univoltine and bivoltine races from Japan and China. Japan has prohibited the export of the silk worm eggs of the pure races and on account of the troubled conditions prevailing in China it has not been found possible to import any eggs from this country. The foreign races that are being used in Mysore for the preparation of the cross-breed layings are Japanese and Chinese races and the existing races in Mysore are sufficiently old as they were imported some years ago. Under the local conditions the foreign races of silk worms are very easily susceptible to disease unless the original stock used for reproductive purposes is vigorus and disease free and proper attention is devoted in rearing.

Improvements in regard to the original stocks of the races of silk worms used for reproductive - purpose in Mysore are being steadily effected by - following strict methods of selective breeding and conducting cellular rearings of the worms in t h e Government Farms.

The Mysore Silk Filatures, Ltd., T. Narasipur and some aided graineurs and private sericulturists co-operated with the Department in conducting cellular rearings of foreign races.

Experiments were conducted during the year of carrying on selective breeding from the progeny of the hibernating layings that occur during certain months both in the Mysore and foreign races of silk worms. These experiments have been helpful in effecting some improvements and are being continued for arriving at definite conclusions.

~~With~~ With a view to study how far the existing - foreign races of silk worms in Mysore can be improved by conducting rearings in a hill station, the starting

starting of Government Silk Farm on the Biligiri-rangan Hills has recently been sanctioned by Govt. as an experimental measure.

In connection with the experiments relating to the Hibernation of the layings of the foreign races undertaken with financial assistance from the Government of India, layings of 10 new races of foreign worms most of which were of European origin, were imported from Kashmir, Punjab, Assam, Persia and France.

Most of these new races were not pure. In connection with the preparation of cross-breed layings with the Mysore race pure foreign races of worms which give white cocoons only have to be used. The purification of the imported races so as to secure from them only white cocoons is being attended to. To find out how far the European races of silk worms can also be made use of for the preparation of cross breed layings on a large scale in Mysore, experiments are being taken up to study the suitability of the pure races as well as the cross breeds from them to the local conditions during the several seasons of the year.

The following items were also under study and observation during the year:--

Mulberry cultivation.-

1. Cost of collection of mulberry seed and cost of raising seedlings and saplings.

2. Methods of treating mulberry seeds before sowing so as to obtain the best possible results.

3. Sowing mulberry seeds broadcast and in rows.

4. The most suitable age of seedlings for raising bush mulberry.

5. Destruction of mulberry stem and root borers.

6. Propagation of varieties of mulberry obtained from sericultural areas in India and outside.

Silk worm rearing.-

1. Rearing of worms from hibernating layings of the pure Mysore and foreign races of worms.

2. Study of the methods best suited to the rearing of the foreign races of worms and the cross breed between the Mysore races and these foreign races.

3. Devising suitable appliances for protecting young silk worms.

G r a i n a g e.-

1. Determining the number of eggs laid by a female moth during several seasons of the year.

2. Relation between the soil of the mulberry garden, the number of female moths that emerge and the number of eggs laid by moths from seed cocoons produced in these gardens.

3. The number of unfertilised, unhatched and hibernating eggs during the several seasons of the year.

4. The percentage of hatching in a day in Mysore and cross breed layings during the several seasons.

5. Number of layings per ounce of seed during the several seasons.

6. Differential feeding and sex-ratio in S i l k worms.

7. Treatment of silk worm eggs in dilute Hydrochloric acid to bring about uniform hatching.

8. Use of bakelite and ordinary tin rings.

9. Use of printed egg sheets.

10. Improving the "SEX-FINDER" machine.

R e e l i n g.-

1. Reducing the cost of the improved charka designed by the Department without detriment to its efficiency.

2. Popularising improved reeling methods among the country charka owners.

3. Improvement of silk waste.

The conclusions arrived at in many of the above matters are being tested in co-operation with the sericulturists on a field scale with a view to get the results confirmed and popularise them among the sericulturists.

3) List of new Industrial Researches ~~undertak~~ proposed to be taken up during the year 1940-41.

All the above experiments will be continued to obtain definite results.

H. Lawrence

Superintendent of
Sericulture in Mysore.

20/1/41

mss) 20/1/41.(4)

- Scientific and Industrial Researches -
Compilation of.

Letter No.248-38/40-41 dated 6th January 1941 from the Secretary, Industrial Research Board, Mysore Road, Bangalore City.

1. Name of Department or Institutions.- Department of Sericulture, Mysore. Central Silk Farms at Mysore, Channapatna, Kolar, Sidlaghatta, Kunigal and Mugur.

2. List of Industrial Researches under taken.-

a) Up to 1st July 1939.

(a) The following experiments connected with mulberry cultivation, rearing of worms and grainage technique were newly taken up during the year.--

Mulberry Cultivation.-

1) Cost of collection of mulberry seed and cost of raising seedlings and saplings.

2) Methods of treating mulberry seeds before sowing so as to obtain the best possible results.

3) Sowing of mulberry seeds broad cast and in rows.

4) Space required in the nursery for raising saplings from seedlings.

5) The most suitable age of seedlings for raising bush mulberry.

6) Methods of transport of seedlings and cuttings from seedlings.

7) Destruction of mulberry stem borer.

8) Propagation of mulberry obtained from Bengal and other places in India.

9) Propagation of seedlings from seeds obtained from Jammu, Bengal and the Punjab.

Silk Worm Rearing.-

1) Rearing of Barapalu, a univoltine race of Bengal, elimination of pebrine from the same and improvement by selection.

2) Cross-breeds between Mysore race and Barapalu race.

3) Rearing of Turkish race to obtain pure strain.

4) Cross-breeds between Mysore race and Turkish race.

5) Rearing of a French race to eliminate pebrine.

6) Cross-breeds between Mysore race and the French race.

7) Rearing of worms from hibernating layings of pure Mysore race.

8) Rearing of worms from hibernating layings of pure foreign races.

G r a i n a g e.-

1) Determining the number of eggs laid by a female moth during several seasons of the year.

2) Relation between the soil of mulberry garden and the number of eggs laid by moths from seed cocoons produced in these gardens.

3) The number of unfertilised, unhatched and hibernating eggs during several seasons of the year.

4) The percentage of hatching in a day in Mysore and cross breeds during several seasons of the year.

5) Number of layings per ounce of seed during several seasons of the year.

6) Refrigeration of hibernating layings of pure Mysore and pure foreign races.

7) Artificial hatching of hibernating layings of pure Mysore and pure foreign races.

8) Relationship between climatic conditions and driage of cocoons.

(b) The following experiments which had been started during the previous years were contd:--

1) Manurial experiments and correlated rearings.

2) Grafting experiments and correlated rearings.

3) Quality and quantity of leaves from tree and bush mulberry.

4) Quality and quantity of leaves from bush mulberry of ordinary cuttings, seedling cuttings and seedlings.

5) Quality and quantity of leaves from bush mulberry planted with different spacings and in different methods.

6) Improving the pure Mysore and pure foreign races by conducting cellular rearings and by continuous selection.

7) Quality of cocoons in pure foreign races - in mass rearings and in cellular rearings.

8) Elimination of pebrine in pure foreign races.

9) Behaviour of pure foreign races and their crosses with Mysore during several seasons of the year.

10) Bakelite rings and ordinary tin rings.

11) Paper suited for egg cards.

12) Effect of gentle brushing of eggs just before hatching on the percentage of hatching in a day.

(c) Research Work.-

(1) Research work on the refrigeration of multivoltine seed cocoons.-

The Government of India sanctioned recurring expenditure for this item of work which was started in April 1937 in Channapatna S i l k Farm. Six series of experiments were conducted to end of March 1939 and the work was continued in the summer months of April and May 1939 also. The report of the research work has been prepared and will be placed before the Imperial Sericulture Committee at the next meeting. It has been found that multivoltine seed cocoons can be refrigerated with safety to resulting moths and worms for periods varying from three to six days, that cocoons on the 6th day of mounting can be refrigerated for three days only while those on the 9th and 10th days of mounting can be refrigerated for six days. These results will be further tested on a field scale in the Government and aided grainages.

(2) Research work on the refrigeration of hybrid layings (Indo-Japanese).-

This work was started in Government Silk Farm, Channapatna, in July 1937 with the grant given by the Government of India towards recurring expenditure. The work was completed at the end of June 1939. The report on this research work will be placed before the next meeting of the Imperial Sericulture Committee. It has been found that the 48 hours old hybrid layings can be refrigerated with safety for a maximum period of 20 days as in the case of multivoltine layings and that these layings can stand the cold much better than the pure multivoltine layings. The results will be further tested on a field scale in the Government and aided grainages.

NEW ITEMS OF RESEARCH WORK.

(3) Recurring expenditure for two new items of research work on the refrigeration of seed cocoons and layings obtained from the same (combined) and on the hibernation of univoltine and bivoltine eggs had been sanctioned by the Government of India and these items of work ought to have been started early in 1938-39. But, as there was considerable delay in obtaining refrigerators and other equipment from abroad, the research work on the refrigeration of seed cocoons and layings from the same (combined) was started early in April 1939 and that on the hibernation of univoltine and bivoltine eggs was started early in July 1939.

(d) Field Scale Experiments.-

a) A few selected sericulturists in the villages have been induced to raise bush mulberry from seedlings and cuttings from seedlings supplied free of cost from Government Farms to test the quality and quantity of leaves obtained from such gardens.

b) Mulberry saplings raised from seedlings

seedlings have been planted as trees both in Government Farms and by private s e r i-culturists to test the behaviour of such trees.

c) Bush mulberry has been raised from seedlings only to a large extent in all the mulberry gardens attached to silk farms in the State.

d) Private sericulturists have been supplied s with mulberry seed and have been induced to raise their own seedlings for extending their mulberry gardens.

e) Ground-nut oil cake was stocked in all the Government Farms and sold to sericulturists for use in the mulberry gardens in rotation with farm yard manure. Many people have used a mixture of ammonium sulphate and ground-nut oil cake for mulberry gardens with satisfactory results.

f) White paper 12 lbs. and 14 lbs. has been used for egg cards in two Government - Grainages to find out the comparative cost and advantages.

g) Twelve "Sex-Finder" machines were got manufactured and supplied to the Government Grainages to test them on a large scale. It is found that the machine has yet to be perfected as the percentage of errors varied from 13 to 15 per cent. Suitable alterations are being made.

h) The results of the research work on the refrigeration of multivoltine layings were - communicated to all the Government and aided grainages for trial on a large scale. T h e year was favourable for conducting the tests as the rainfall was scanty and unequally distributed. A large quantity of laying was refrigerated in Government and aided grainages and timely supply of layings was made. It was - found that layings 48 hours old refrigerated for over 20 days did not give satisfactory - results.

i) The improved charka was demonstrated in the houses of the reelers who supplied cocoons, labour, fuel, etc. The reelers have realised the advantages of installing the - improved charka, have found ready sales and good demand for silk produced in these charkas and have arranged to install such charkas.

j) The production of improved silk waste in indigenous reeling establishments has been demonstrated by the Mysore Spun Silk Mills, Ltd., Channapatna, and many reelers have been producing improved silk waste.

k) The proper training and pruning of old mulberry trees in the backyards of houses and in the field margins in sericultural villages was demonstrated by the staff of the Department with satisfactory results.

b) During 1939-40. & Progress in brief.

The following items of research work which had been undertaken with the financial assistance (towards recurring expenditure only) of the Government of India were concluded during the year and detailed reports were placed before the Imperial Sericultural Committee at the Meeting held on 18th December 1939 at Mysore:-

1. Research work on the refrigeration of multivoltine seed cocoons.

2. Research work on the refrigeration of hybrid layings..

The results obtained in the above two items of research work and in the research work on the refrigeration of multivoltine silk worm eggs were tested on a field scale in Government and aided grainages with satisfactory results.

The following two research schemes the recurring expenses relating to which are being met from the Government of India grants were in progress at the Government Silk Farm, Channapatna.

1. Hibernation of imported univoltine and bivoltine silk worm eggs.

2. Refrigeration of seed cocoons and eggs from the same (combined).

The main object of the first scheme is to study the conditions necessary to secure uniform and complete hatching and good rearing results from the silk worm eggs of the foreign races of worms. The experiments were started in July 1939 and two series of the experiments were completed during the year under report. The scheme has been sanctioned for a total period of 4 3 years and has to continue for 2 more years. The results obtained so far indicate that silk worm eggs of univoltine and bivoltine races kept at normal room temperature for a period of 30 days after laying and hibernating-ed for a period of 120 days at a temperature of 32° to 40° F. and the rearing period so adjusted as to fall between September and January give a hatching of 75 to 90% and good results in r e a r i n g.

The research work on the refrigeration of multivoltine silk worm eggs had indicated that two day old eggs may be stocked with safety in the refrigerator for 20 days, and the research on the refrigeration of multivoltine seed cocoons had indicated that seed cocoons on the 9th day of mounting and the penultimate day of the emergence of moths can be safely refrigerated for 6 days. A scheme of research for determining the maximum period for which eggs laid by moths whose emergence had been delayed for the maximum safe period can be safely refrigerated was taken up, the Government of India having agreed to meet the recurring expenses of the scheme for a period of two years. The experiments were started at the Government Silk Farm, Channapatna in April 1939 and will be completed in April 1941. The results obtained so far show that the safe period for delaying the emergence of moths and the safe period for delaying the hatching of the eggs can be combined in certain cases only.

In addition to the research schemes mentioned above the following items of experimental work which were started in previous years were continued during the year.-

1. Manurial experiments in regard to mulberry

mulberry and correlated rearings.

2. Grafting experiments with mulberry and correlated rearings.

3. Quality and quantity of leaves from tree and bush mulberry.

4. Quality and quantity of leaves from bush mulberry raised from ordinary cuttings, seedling cuttings and seedlings.

5. Quality and quantity of leaves from bush mulberry planted with different spacings and in different methods.

6. Improving the Mysore and foreign races of worms by conducting cellular rearings and by continuous selection.

7. Quality of cocoons in foreign races in mass rearings and in cellular rearings.

8. Elimination of pebrine in foreign races.

9. Behaviour of pure foreign races and their crosses with the Mysore race during the several seasons of the year.

10. Effect of gentle brushing of eggs just before hatching on the percentage of hatching in a day.

Papers showing the results obtained so far in these experiments and the action taken to make use of the results in Government Farms and disseminate them among the sericulturists were prepared by some of the Officers of the Department and submitted to the First All India Sericultural Conference held at Bangalore in December 1939. In co-operation with the sericulturists who are in the vicinity of the Government Farms and who are convinced of the efficiency of the improved methods recommended field scale trials of the experiments are being conducted.

In connection with the experiments that are being conducted to improve the local varieties of mulberry special mention may be made of the grafting experiments recently taken up in Channapatna Farm. This work has been undertaken to combine the good qualities of the local mulberry with those of the foreign varieties, a number of which suited to tropical climates have been obtained from Japan, Korea, and China and have been planted in Government Farms. A number of grafted plants have already been raised to study their behaviour and compare the yields obtained in them with the local varieties. The results obtained so far are encouraging. The grafted plants bear very much bigger leaves than either the local mulberry or the pure foreign varieties grown here, by themselves, and yield mulberry leaves nearly twice as much as the quantity obtained by the local seedling bush. Raising bush mulberry from local seedlings is by itself an improvement as compared with the existing practice among the sericulturists in Mysore of raising bush mulberry from ordinary cuttings as the bushes raised from the seedlings give about 20% more leaves of better quality than the bush mulberry raised from ordinary cuttings. As compared with the yield that is being obtained from the bushes raised from the ordinary cuttings the yield of leaves from the

the grafts is nearly 3 times more.

It is necessary to carry on the experiments relating to these grafts on a regular basis to determine the (1) most suitable method of granting (2) the varieties suitable to local conditions (3) the season or seasons during which the grafting work has to be undertaken (4) the yield and the quality of the leaves produced and (5) the suitability of the leaves for the silk worms reared. The work is slow and will have to extend over a period of some years. A scheme of research relating to these grants has been prepared and sent up for consideration at the ensuing meeting of the Imperial Sericultural Committee to come off in December 1940 and for provision of funds by the Government of India to the extent of about Rs.3,500/- per annum for a period of 5 years for carrying on the experiments. The results of the experiments are expected to go a long way to increase the output of mulberry leaves per unit area of bush garden and to reduce the cost of production of mulberry leaves and consequently of reeling cocoons and silk.

A good deal of attention was devoted during the year for the study of the methods to be employed for improving the quality and the quantity of the seed cocoons obtained from the Mysore as well as the foreign races of silk worms. This work has been necessary particularly in connection with the foreign races of silk worms owing to the difficulty experienced in recent years in importing fresh silk worm eggs of the univoltine and bivoltine races from Japan and China. Japan has prohibited the export of the silk worm eggs of the pure races and on account of the troubled conditions prevailing in China it has not been found possible to import any eggs from this country. The foreign races that are being used in Mysore for the preparation of the cross-breed layings are Japanese and Chinese races and the existing races in Mysore are sufficiently old as they were imported some years ago. Under the local conditions the foreign races of silk worms are very easily susceptible to disease unless the original stock used for reproductive purposes is vigorus and disease free and proper attention is devoted in rearing.

Improvements in regard to the original stocks of the races of silk worms used for reproductive purpose in Mysore are being steadily effected by following strict methods of selective breeding and conducting cellular rearings of the worms in t h e Government Farms.

The Mysore Silk Filatures, Ltd., T. Narasipur and some aided graineurs and private sericulturists co-operated with the Department in conducting cellular rearings of foreign races.

Experiments were conducted during the year of carrying on selective breeding from the progeny of the hibernating layings that occur during certain months both in the Mysore and foreign races of silk worms. These experiments have been helpful in effecting some improvements and are being continued for arriving at definite conclusions.

With a view to study how far the existing foreign races of silk worms in Mysore can be improved by conducting rearings in a hill station, the starting

starting of Government Silk Farm on the Biligiri-rangan Hills has recently been sanctioned by Govt. as an experimental measure.

In connection with the experiments relating to the Hibernation of the layings of the foreign races undertaken with financial assistance from the Government of India, layings of 10 new races of foreign worms most of which were of European origin, were imported from Kashmir, Punjab, Assam, Persia and France.

Most of these new races were not pure. In connection with the preparation of cross-breed layings with the Mysore race pure foreign races of worms which give white cocoons only have to be used. The purification of the imported races so as to secure from them only white cocoons is being attended to. To find out how far the European races of silk worms can also be made use of for the preparation of cross breed layings on a large scale in Mysore, experiments are being taken up to study the suitability of the pure races as well as the cross breeds from them to the local conditions during the several seasons of the year.

The following items were also under study and observation during the year:--

Mulberry cultivation.-

1. Cost of collection of mulberry seed and cost of raising seedlings and saplings.
2. Methods of treating mulberry seeds before sowing so as to obtain the best possible results.
3. Sowing mulberry seeds broadcast and in rows.
4. The most suitable age of seedlings for raising bush mulberry.
5. Destruction of mulberry stem and root borers.
6. Propagation of varieties of mulberry obtained from sericultural areas in India and outside.

Silk worm rearing.-

1. Rearing of worms from hibernating layings of the pure Mysore and foreign races of worms.
2. Study of the methods best suited to the rearing of the foreign races of worms and the cross breed between the Mysore races and these foreign races.
3. Devising suitable appliances for protecting young silk worms.

Grainage.-

1. Determining the number of eggs laid by a female moth during several seasons of the year.
2. Relation between the soil of the mulberry garden, the number of female moths that emerge and the number of eggs laid by moths from seed cocoons produced in these gardens.
3. The number of unfertilised, unhatched and hibernating eggs during the several seasons of the year.

4. The percentage of hatching in a day in Mysore and cross breed layings during the several seasons.

5. Number of layings per ounce of seed during the several seasons.

6. Differential feeding and sex-ratio in S i l k worms.

7. Treatment of silk worm eggs in dilute Hydrochloric acid to bring about uniform hatching.

8. Use of bakelite and ordinary tin rings.

9. Use of printed egg sheets.

10. Improving the "SEX-FINDER" machine.

R e e l i n g.-

1. Reducing the cost of the improved charka designed by the Department without detriment to its efficiency.

2. Popularising improved reeling methods among the country charka owners.

3. Improvement of silk waste.

The conclusions arrived at in many of the above matters are being tested in co-operation with the sericulturists on a field scale with a view to get the results confirmed and popularise them among the sericulturists.

3) List of new Industrial Researches undertak proposed to be taken up during t h e year 1940-41.

All the above experiments will be continued to obtain definite results.

H. Hunter

Superintendent of
Sericulture in Mysore.

mss) 20/1/41.(4)

UNIVERSITY OF MYSORE.

No. 1633

Encl. one in dup.

COLLEGE OF ENGINEERING,
BANGALORE.

Dated the 24th January 1941

From

E. K. RAMASWAMI, ESQ., B.Sc. (ENGNG., LONDON), A.C.G.I., A M.I.M.E., M.A.S.M.E., M.I.E.,
PRINCIPAL, COLLEGE OF ENGINEERING,
BANGALORE.

To

The Registrar,
University of Mysore,
Mysore.

Sir,

With reference to your letter No.18226-7/1 dated 11th January 1941, forwarding copy of letter from the Secretary, Industrial Research Board, Bangalore, regarding the establishment of an Industrial Research Board, I have the honour to forward herewith a statement (in duplicate) furnishing the information on the points mentioned in the Secretary's letter.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD BANGALORE
No. 161
Date 29/1/41

I have the honour to be,
Sir,
Your most obedient servant,

P. 376
Ackn. 29/1

Sd. E.K.Ramaswami
Principal.

P.T.O.

Memo No. 1634/Civil Cases

24.1.1941.

Copy forwarded with compliments to the Secretary, Industrial Research Board, Mysore Road, Bangalore City, for information with reference to his letter No.230-7/40-41 dated 6th January 1941, along with a copy of statement.

Principal.

COLLEGE OF ENGINEERING, BANGALORE.

LIST OF INDUSTRIAL RESEARCHES MADE.

1. Name of Department or Institution.	Mechanical Engineering Department, Engineering College, Bangalore.
2. List of Industrial Researches undertaken	
a) upto 1st July 1939 :—	1. Experiments on Semi-Steel (Publishe 2. Strength of different kinds of timber available in Mysore State (Published) 3. Experiments on water white Methanol from Bhadravati Iron & Steel Works with a view to find out its suitability as fuel in internal combustion Engines in place of petrol. (Report sent to Iron & Steel Works)
b) during 1939-40 :—	Nil
c) Progress in brief :—	Nil
3. List of new Industrial Researches proposed to be taken up during the year 1940-1941	1. Experiments to be conducted on Petrol Alcohol mixtures with a view to find out the best percentage of mixture for motorcars. (Alcohol from Mysore Sugar Co., to be used) 2. Research on the lubricating value of indigenous vegetable oils.

PRINCIPAL.

Ac 1249

DEPARTMENT OF AGRICULTURE.
(Mysore State)

Office of the Agricultural Chemis
Bangalore, Dated 24th January 194

From

The Agricultural Chemist,
Department of Agriculture,
Seshadri Road, Bangalore.

To

The Secretary,
Industrial Research Board,
Mysore Road, Bangalore.

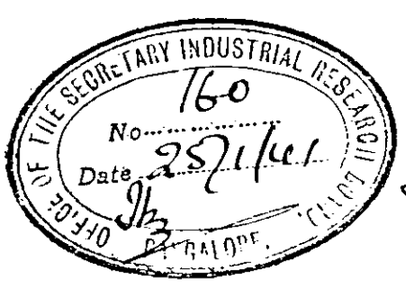
Dear Sir,

With reference to your letter No.248-32/40-41 dated 6th January 1941 regarding the Scientific and Industrial Researches, I write to state that we have no industrial research carried on in these laboratories.

Yours faithfully,

Shivarajanam

AGRICULTURAL CHEMIST.



GOVERNMENT OF MYSORE.

Telegraphic Address :—"GEOL."

In all communications please quote our reference
No. 9639-36/Geo one

MYSORE GEOLOGICAL DEPARTMENT

Bangalore, 25th Jan. 1941.

FROM

B. RAMA RAO, ESQ., M.A., D.I.C., F.G.S.,
Director of Geology in Mysore,
Bangalore.

TO

The Secretary,
Industrial Research Board,
Bangalore.

SIR,

With reference to your letter No.230 /40-41 dated 6th January 1941, I have the honour to forward you herewith the accompanying statement of the progress of investigations relating to this Department.

The receipt of the statement may kindly be acknowledged.

387/no 1
Acknowledged

I have the honour to be,
Sir,
Your most obedient servant,

B Rama Rao

DIRECTOR,
Mysore Geological Department.

SECRETARY INDUSTRIAL RESEARCH BOARD
No. 169
Date 29/1/41
BANGALORE.

Ar. 25/1/40

1) MYSORE GEOLOGICAL DEPARTMENT.

2) Progress of Investigations mentioned in this office letter No.9639-4 dated 22-9-1939.

(1) Ferro-Alloys:- Since the Mysore Iron and Steel Works have been contemplating to take up these investigations and as they have better facilities to conduct experiments at Bhadravati, this Department has dropped this question.

(2) Chemicals:-

(a) Sodium Bichromate:- The scheme for manufacturing this substance was sanctioned by Government and a Factory has been set up at Belagola.

(b) Alum & Aluminium Sulphate:- As the Mysore Chemicals and Fertilisers Ltd., have under consideration the manufacture of these substances, further investigations by this Department were discontinued.

(c) Potassium Permanganate:- The manufacture of this chemical from manganese ores of Mysore, employing a hydro-thermal process was investigated by a Research Scholar entertained by this Department. His final report and proposals for setting up a small plant to manufacture this salt at Belagola, are under consideration.

(d) Magnesium Sulphate:- No further work has been undertaken.

(e) Hydraulic Lime:- Detailed surveys on the Voblapur limestone kankar deposits were carried out and it was ascertained that about 200,000 tons of kankar are available from this place. Several samples of this kankar were calcined and hydrated. Several samples of the hydrated lime were sent to the Mysore Paper Mills, Ltd., and also to the Mysore Sugar Co., Ltd., but neither of them has reported favourably on these samples.

(f) Sodium Chloride:- About 900 square miles in the Shimoga and Chitaldrug Districts were surveyed to examine the occurrence of earth salt. It has been ascertained that about 450 tons of salt could be collected annually in these places for a few years. Out of the several samples furnished to the Chairman, Mysore Iron and Steel Works, one sample from near Chitaldrug has been favourably reported upon. Further investigations to test the extent, grade and best method of producing the salt will be continued.

(3) Abrasives:- As resolved by the Abrasive Sub-Committee further investigations relating to the preparation of abrasive articles from Corundum, Staurolite and garnet was entrusted to Mr. P.S. Narayana. He has since carried out experiments on the preparation of abrasive paper using staurolite. The preparation of staurolite cloth and paper, corundum wheels, etc., on a pilot plant scale will be undertaken by him for which the Government have been pleased to sanction a sum of Rs.2,000/-.

(4) Preparation of Cement-Asbestos Sheets:- According to the communication received from the Secretary, Industrial Research Board, this investigation had to be discontinued.

(5) Ochres:- Several samples of calcined and raw ochres were forwarded to the Director, Industrial Research Bureau, Alipore, Calcutta, to ascertain the market available. As the reports received were not encouraging and the market quotations were also unfavourable, further investigations have been discontinued.

The question of utilizing some of the highly ferruginous lateritic nodules in Hoskote area, for making red paints is being investigated and samples will be forwarded to the Mysore Lac and Paint Works to test their suitability.

3) Industrial Researches undertaken during 1939-40.

(a) Experiments on preparation of Potassium Permanganate on a semi-commercial scale.

(b) Calcining and hydrating lime from the High grade limestone kankar of Voblapur area.

(c) Survey of Earth salt bearing localities in the Shimoga and Chitaldrug Districts.

4) New Researches proposed to be taken during 1940-41.

As all the officers are busily engaged in the Mineral Survey, prospecting and mining works, the laboratory investigations could only be carried out when they are at headquarters for a short while, after the field season. As such, it is not possible to undertake any new investigations this year, but those which have already been taken up will be continued.

B Ramachar

D I R E C T O R ,
Mysore Geological Department.

Ar.27/1

Government of Mysore.
Industrial Research Board.

No.351-15/40-41.
Immediate.

Office of the Secretary,
Bangalore, Dated, 27th January 1941.

To

Fifteen Institutions as per file

Dear Sir,

Subject: Scientific and Industrial Researches - Compilation of.

--

I write to invite a kind reference to this office lett No.248-32/40-41 dated 6th January 1941, requesting information above subject. I have not received a reply till today.

Since the matter is very urgent, I shall be obliged if the required information is furnished immediately.

Yours faithfully

Secretary
Industrial Research Board

Government of Mysore,
Industrial Research Board.

No.366-6/40-41
Immediate

Office of the Secretary,
Bangalore City, Dated, 27th Jany. 1941.

To (1) The Chairman, M.I.S.W. Bangalore
(2) The Dr of Geology "
(3) The Dr of Dk " (No. 237-6 for 8 6.1.41)
(4) The Dr Soil. Bangalore
(5) Central Coll. & Chief Engineer & Secy-
7) Dr & P.H.

Sir,

Subject: Scientific and Industrial Researches -
Compilation of.

I am directed to invite a kind reference to this office letter No. 230-7, dated 6th January 1941 on the above subject.

Board at its

Since the information is to be placed before the next meeting and as the matter is urgent, I shall be extremely obliged by your kindly arranging to forward the information immediately.

I have the honor to be,
Sir,
Your most obedient servant,

SECRETARY.

TEL - KHODAY
PHONE - 2068

Khoday
Ribbon, Carbon & Allied Industries.

Proprietor:-
Khoday Eshwarsa.

QUALITY • DURABILITY • COMPETITIVE

38, SANTUSAPET, BANGALORE CITY.

The Secretary
Industrial research board
Bangalore

31st Jan 41

Dear Sir,

With reference to your letter of 25th inst., we have enclosed herewith the particulars of researches etc., both of the chemical industries but also of the Engineering works

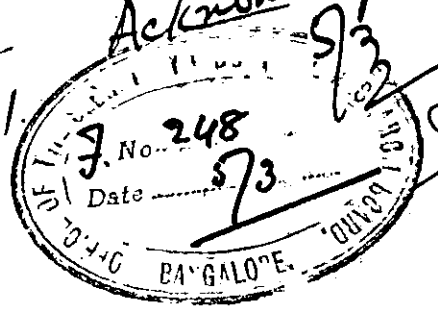
Further, we are interested to understand the activites of this board in relation to Industrial institutions and we would thank you to be enlightening us regarding the new proposals which might be formulated from time to time which would be of use to Industrial institutions particularly of those which have - direct effects on our industries.

Thanking you,

We remain
Yours faithfully
For Khoday Ribbon Carbon & Allied Industries

Thursday
Read to day
5/3/41.

Acknowledged
5/3



Telegrams: " KHODAY "

Telephone { Factory : 2072
Office : 2068

63

Khoday Ribbon Carbon & Allied Industries

H. O. Bangalore City.

(S. India.)

Factory: 11 Race Course Road,
Offices: 38, Santhusapet,

BANGALORE CITY 28th Jan 194 1.

1. Name of Dept. or institution: KHODAY RIBBON CARBON & ALLIED INDUSTRE S
38, Santhusapet:Bangalore City

2. List of Industrial researches up to 1st July 1939.

1. Ink Industry : Rubberstamp inks, Thumb impression inks, Ink powders, Ink tablets Fountain pen inks, Registration inks,Cloth stamping inks, Duplicator inks, Stencil inks copying inks, Numbering inks, Hectograph inks

PRINTING INKS, LITHO PRESS INKS, POSTER INKS

Typewriter ribbons in all colours

Carbon paper, Stamping pads

2. Acetic acid from Grey acetate of lime & Industrial alcohol

(b) 1939-40

Several experiments were conducted for obtaining METHYL VIOLET, EMERALD GREEN and other dyestuffs by synthetic methods from Benzine and Aniline.

Several experiments were conducted on indegenous forest products for obtaining vegetable colours.

Tannic acid and Diglycol laurate

(c) Progress

Typewriter ribbons, Printing inks, Duplicator inks, stencil inks, Litho inks, Poster,inks, stamping pads, ink powder and all other varities of inks have been introduced in the market, and Governments of Madras, Punjab, Bihar Hyderabad-dn, Mysore, Kashmir, Travancore, Cochin, Indore, Pudukkottai, Mewar and other various Governmental and public institutions have placed orders.

Construction of plant for the manufacture of Acetic acid is under completion and it is expected that the Acid would be ready for market by April or earlier.

Carbon paper plant is under completion and all the var-ieties will be introduced shortly.

(3) New Researches proposed:

Intensive research on Vegemtable forest product and also synthetic products to obtain highly tinctorial dyestuffs.

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Telephone { Factory : 2072
Office : 2068

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H. O. Bangalore City.

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Telephone { *Factory : 2072* / *Office : 2068*

Khoday Ribbon Carbon & Allied Industries

H. O. Bangalore City.

(S. India.)

Factory: 11 Race Course Road,
Offices: 38, Santhasapet,

BANGALORE CITY 28th Jan 194 1.

1. Name of Dept or institution: KHODAY ENGINEERING WORKS
   11, Race course Road:Bangalore

2. List of Industrial researches up to 1st July 41.

TEXTILE PLANTS: Entire silk throwing plant was designed and constructed. All the components have been newly designed and casted in the works. Doubling, reeling, winding and other allied textile machinary was designed and constructed in the works.

Typewriter ribbon plant and other machines and ~~for~~ machine tools for the manufacture of various other inks were designed and constructed.

(b) 1939-40

Plants for the manufacture of Acetic acid Carbon Paper is being constructed.

Looms for the manufacture of Pure silk ribbons and art silk ribbons were constructed.

Looms for the manufacture of Cotton file binding tape was constructed.

All the machines are designed with definite imporvements and constructions were undertaken

(c) Progress.

Silk throwing plants, doubling reeling, winding and other textile plants are being manufactured for orders and supplies. Typewriter ribbons, Pure silk ribbons, Cotton file binding tapes, stamping pads, and other various other inks are being sold in the market

(d) New researches proposed:

Intensive researches and efforts will be made to perfect every component of the Textile plants and to specialise in the manufacture of textile machinary both for Silk and cotton.

Telegrams: " KHODAY "

Telephone { *Factory : 2072*
Office : 2068

Khoday Ribbon Carbon & Allied Industries

H. O. Bangalore City.

(S. India.)

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Offices: 38, Santhusapet,

BANGALORE CITY 28th Jan 194

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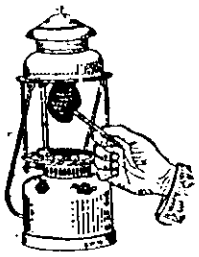
TELEPHONE 2351

Bangalore Chemical & Manufacturing Co., Ltd.

MANUFACTURERS OF INCANDESCENT MANTLES
CHEMICAL MANUFACTURERS



REGD.

TELEGRAMS:
"THORIUM" BANGALORE
CODES:
A. B. C. 6TH EDITION

Malleswaram,
Hebbal P.O.
BANGALORE, India.

28th January 1941.

Ref. 1199

The Secretary,
Industrial Research Board,
Government of Mysore,
BANGALORE.

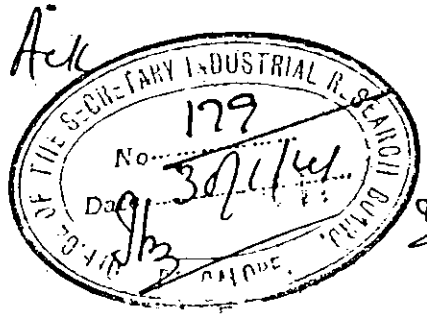
Dear Sir,

Subject: Scientific and Industrial Researches-
Compilation of.

Referring to your enquiry No.351-15/40-41 dated 27th January no industrial research was undertaken by us up to 1st July 1939 during 1939-40 and no new industrial research are proposed to be taken up for 1940-41.

Yours faithfully,
For BANGALORE CHEMICAL & MFG. Co. LTD.

T. P. Ramaswamy
Manager.



Acknowledged
31/1

ALL OFFERS AND PRICES, UNLESS STATED TO BE FIRM, ARE WITHOUT ENGAGEMENT AND SUBJECT TO STOCKS BEING AVAILABLE.

BANC

TEL ADD.' MYMATCH"

THE MYSORE MATCH CO., LTD.

SHIMOGA
(MYSORE STATE RY.)

Ref. 1538

DATE 28th Jan. 1941.

The Secretary,
Industrial Research Board,
Mysore Road, Bangalore City.

Dear Sir,

With reference to your letter No. 351-13/40-41 of the 27th instant, we ✗ write to inform you that no research work has been carried out by us so far.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD BANGALORE.
No. 171
Date 29/1/41

Yours faithfully,
For The Mysore Match Company, Ltd.,

Secretary.

Kvr.

TELEGRAMS: "MYSTONPIPE"

TELEPHONE NO. { HEAD OFFICE 2368 / WORKS: 2295

THE MYSORE STONEWARE PIPES & POTTERIES, LTD.

MANAGING AGENTS:
THE MYSORE INDUSTRIAL
DEVELOPMENT Co
WORKS: CHIKBANAVAR P.O.

"ASIATIC BUILDINGS"
KEMPEGOWDA ROAD,
BANGALORE CITY

REF. No. 2093

Dated January 28th 1941.

The Secretary,
Industrial Research Board,
B a n g a l o r e.

Dear Sir,

We are in receipt of your letter No. 351-15/40-41 dated Bangalore, 27th January 1941 and beg to state that - we have at present no subject of industrial importance to place before the Board at its next meeting.

Thanking you,

Yours Faithfully,

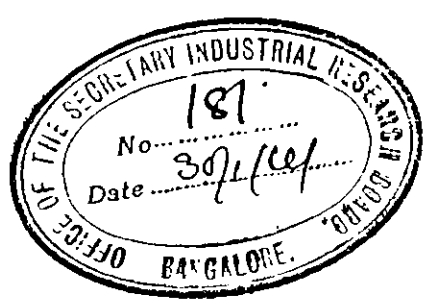
For the Mysore Stoneware Pipes & Potteries, Ltd.,
For the Mysore Industrial Development Co.,

R. Nyas Rao

Managing Agents

30/1/41

KMR/-



No. 933

Office of the Superintendent, Public Health Institute, Bangalore,
Dated January 28th, 1941.

Dear Sir,

Referring to your letter No.248-32 dated 6th January 1941, I write to state that the information called for therein is furnished as follows:-

1. Name of Institution= Public Health Institute, Bangalore,

2. List of Industrial Researches undertaken:-

1. Up to 1st July 1939.	Nil
2. During 1939-40.	Nil
3. Progress in Brief.	Nil.

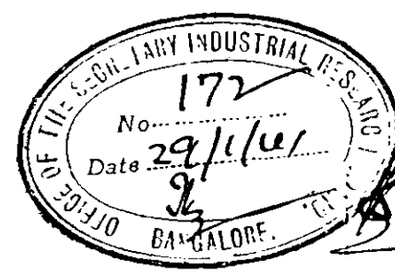
3. List of new Industrial Researches proposed to be taken up during the year 1940-41. Nil.

Yours faithfully,

Superintendent,
P.H. Institute.

To

The Secretary,
Industrial Research Board,
Mysore Road, Bangalore City.



Tel. Address: "SANDAL" MYSORE
Telephone No. 362.

GOVERNMENT OF MYSORE.

Sri Krishnarajendra Mills, Ltd.,
(Registered in Mysore)
TELEGRAM "BRIKMILS," MYSORE. TELEPHONE MYSORE 346
Bangalore Road,
Mysore 28th January *1941*

Received 1602

The Secretary,
Industrial Research Board,
Bangalore.

Dear Sir,

Re: Scientific and Industrial Researches compilation of.

With reference to your letter No.351-15/40-41 of the 27th instant, we do not appear to have received your letter of the 6th idem on the above subject. Please therefore send us a copy of same to enable us to furnish you the required information.

Send a Copy at once
Attender
30/1
30/1/41
GN

Yours faithfully,

Secretary

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD. BANGALORE. No. 178 Date 30/1/41

I have the honour to be,

S i r,

Your most obedient servant,

Director.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD. BANGALORE. No. 183 Date 30-1-41

SGS:ATK)

THE MYSORE PAPER MILLS LIMITED

TEL. ADD. "PAPERMILL"
HEAD OFFICE: BANGALORE

REF. NO G/ 467

TRADE MARK
BISON BRAND

BHADRAVATI
(MYSORE STATE RY.)

DATED January 30th, 1941

Acknowledged
THE SECRETARY INDUSTRIAL RESEARCH BOARD
No. 197
Date 4/2/41
BANGALORE.

The Secretary,
Industrial Research Board,
Mysore Road,
Bangalore City.

Dear Sir,

Subject:- Scientific and Industrial Researches - Compilation of.

With reference to your letter No.248-32/40-41 dated 6th instant addressed to our Bangalore Office, we give below the particulars required:-

Up to 1st July 1939:- Investigations made by the Mills comprise mainly of:

1) Analytical tests of bamboo and the various auxiliary materials required in the manufacture of pulp and paper, such as, China Clay, Lime and Limestone, Common Salt, Alum, Rosin, Casein, Starch, etc., and

2) Laboratory and plant trials in the processes of manufacture with a view to evolve a standard of operation suited to local materials and local conditions.

During 1939-40:- Use of areca husk as an auxiliary raw material for the manufacture of paper was investigated. Trial runs were promising and further supplies of raw material have been requested, to continue the investigation.

Manufacture of Emergency Newsprint from indigenous materials was attempted. The trial was successful and supplies have been, and are being, made. The Mysore Gazette is being regularly printed on this paper and newspaper publishers draw their requirements whenever imported material is difficult to obtain.

During 1940-41:- Attempts are being made to use China Clay obtained locally in Narasimharajapura and Thirthahalli areas, in place of China Clay imported from Travancore, Bihar, etc. The trials are continuing. The presence of mica in the local clays is a handicap, and efforts are being made to eliminate this impurity. The Geological Department has undertaken mining, washing and supplying of kaolin.

Samples of saline earths available in Chitaldrug area, received from the Director of Geology, were tested for their utility as a possible source of common salt. The Director has been requested to send samples of a variety which seemed to be promising for further tests.

Jengarike, a ghat species of palm, sent as sample by the Forest Department, has in laboratory tests yielded a pulp comparable with imported woodpulp required for certain kinds of paper, and with much less consumption of chemicals and bleach than bamboo. Arrangements have been made to make plant trials during the next ~~fix~~ few months.

Samples
~~Supplies~~ of certain forest grasses have also been obtained to test suitability and yield of pulp both for purposes of paper and cardboard making.

Tests on the result of soaking bamboos in the plant effluent containing alkali washings are being made with a view to see the effect of such treatment in the processes of digestion and bleaching.

Manufacture of Kraft pulp and paper from indigenous materials is being studied and the manufacture of newsprint on a regular commercial scale from local raw materials is being actively considered.

Yours faithfully,
For The Mysore Paper Mills Limited:

General Manager.

Letter in duplicate:

THE MYSORE PAPER MILLS LTD

BHADRAVATI

G/ 468. January 30th, 1941

The Secretary,
Industrial Research Board,
Mysore Road,
Bangalore City.

Dear Sir,

Subject:- Scientific and Industrial Researches - Compilation of.

With reference to your letter No.248-32/40-41 dated 6th instant addressed to our Bangalore Office, we give below the particulars required:-

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Tests on the result of soaking bamboos in the plant effluent containing alkali washings are being made with a view to see the effect of such treatment in the processes of digestion and bleaching.

Secretary, Industrial Research Board,
Bangalore.

THE MYSORE PAPER MILLS LTD
BHADRAVATI

Manufacture of Kraft pulp and paper from indigenous materials is being studied and the manufacture of newsprint on a regular commercial scale from local raw materials is being actively considered.

Yours faithfully,
For The Mysore Paper Mills Limited:

General Manager.

Letter in duplicate:

ADDRESS—"MACHINER" TELEPHONE No. 2002, CITY.

(GOVERNMENT OF MYSORE)

THE CENTRAL INDUSTRIAL WORKSHOP

(Department of Industries and Commerce)

MR. A. V. RAGHAVACHAR, B.Sc. (MYSORE), M.Sc. (TECH.), MANCHESTER, A. M. I. MECH. E. (LONDON), A. M. I. E. (INDIA),
INDUSTRIAL ENGINEER AND SUPERINTENDENT.

Ref. No. 1705 One-and

Bangalore, 30th January 194 1.

ALL COMMUNICATIONS TO BE ADDRESSED TO THE SUPERINTENDENT.

For:—
Improved "MYSORE" Sugarcane Mills certified to be Efficient

Milling Work of all sorts

Improved Plough Parts

Paris Green Equipment

D. S. P. Sprayers

Manufacture of Rock Drills, Etc.

V. P. P., B. City.

To

The Secretary,
Industrial Research Board,
Bangalore.

Dear Sir,

Sub: Scientific and Industrial Researches - compilation of.

With reference to your letter No.237-6/40-41 dated 6th January 1941 to the Director of Industries and Commerce in Mysore, I am enclosing herewith the information required by you.

Yours faithfully,

M. Raghavachar
Superintendent.

AVR-PRF-3).

1) Ack.
2) Compile + Publish

Rec. 1/2/41

Ack. 2/2

Ack. 601/40-41

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD
No. 186
Date 1/2/41
BANGALORE

1) Name of Department or Institution. — Central Industrial Workshop.

2) List of Industrial Researches undertake:-

a) up to 1st July 1939,

1) Experiments with wooden oil mill for extraction of oil was conducted.

2) Machine for threshing Ragi.

3) Well-pumps to be worked by manual labour.

4) Bullock Carts with ball bearings etc., to reduce the draught on the bullock.

b) during 1939-40.

Experiments were continued for improvement in the last two items during the year.

c) progress in brief.

The ragi threshing machine was worked in a farm and proved satisfactory and much saving of labour was effected. It is very useful to big land-holders owning large ~~extension~~ areas of ragi, Jolla, etc., cultivations.

Oil Mills. Two mills are at present working and the oil produced is ~~marked~~ rated as superior in quality on account of it coming into contact with wooden parts only during extraction.

Hand-Deep-well Pump. One has been fitted up recently in Sakaleshpur taluk and report regarding its working is awaite

The Bullock Cart was presented to the Red Cross Society under orders of Government. It was kept in the Palace Stables for trial and laterly ~~they~~ we have supplied to Lt.Col. A. Gopal Rao 2 sets of axles with ball bearings and further improvements are being made to the carts at the Palace Stables.

3) List of new Industrial Researches proposed to be taken up during the year 1940-41.

Small machines suitable for button making ~~could~~ can be organised on a Cottage Industry basis. Machinery for trying abrasive wheels.

Lubricants with Graphite as basis. The last two items will be tried in collaboration with Mr. P.S. Narayana, Consulting Geologist.

The application of Gas Engi

The application of Gas Engine for road vehicles.

M. Raghavachar
Superintendent.

AVR-PRF-3).

Tel. Address: "PILCEC"
Telephone No. 2052

University of Mysore.

No. 3695
Enc.

CENTRAL COLLEGE,

Bangalore, dated 31st January ..... *194* 1.

FROM

A. B. MACKINTOSH, ESQ., M.A. (OXON.), DIP. EDN. (ST. ANDREWS), J.P.,
Principal, Central College, Bangalore.

To

The Secretary,
Industrial Research Board,
Bangalore.

SIR,

Subject: Scientific and Industrial Researches - Compilation of
---

With reference to your letter No.230-7 dated the 6th January 1940, I have the honour to forward herewith the Memo in original received from the Professor of Chemistry in regard to the progress of the investigations furnished by him.

I have the honour to be,
Sir,
Your most obedient servant,

A. B. Mackintosh
Principal.

Acknowledged
mgr 3/1/40

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD. BANGALORE.
No. 190
Date 2/2

UNIVERSITY OF MYSORE.

Department of Chemistry,
Central College, Bangalore.
Dated 29th January 1941.

MEMORANDUM.

Reference.- Letter No. 230-7/40-41, dated 6th Jan' 1941 from the Secretary, Industrial Research Board, Bangalore.

---

1. Name of Department. -- Department of Chemistry, Central College, Bangalore.

2. Progress of Research work. -- Work on thermal curing of paddy and the development of rancidity in unpolished rice is in progress. Large scale experiments have not yet been carried out.

   Work on Bordeaux mixture is now ready for publication.

   Work on soil colloids and on humus is in progress.

3. Work on industrial wetting agents has been started. Dr. Manjunath and his coworkers are continuing their work on certain oils of medicinal value obtained from local materials.

4. Work on items in (3) will be continued.

B. Sanjiva Rao
Professor of Chemistry.

The Principal,
Central College,
Bangalore.

BRK.

395-3

31st January 1

Dear Mr.

Subject: Scientific and Industrial Researches

Refce: This office letter No.248-32 of the 6th instant and reminder on the 27th instant.

I shall be obliged if you can kindly expedite your reply on the above subject.

Yours sincerely,

1) M.S.Krishna Rao,Esq.,
2) P.V. Krishna,Esq.,
3) D.Raja Rao,Esq., (Mys Paper Mills)

Sri Krishnarajendra Mills, Ltd.,

(Registered in Mysore)

TELEGRAM
SRIKMILS, MYSORE
TELEPHONE
MYSORE 266.

Bangalore Road,

Mysore 31st January 194

Replied 1/8/4

The Secretary,
Industrial Research Board,
Bangalore.

Dear Sir,

Re: Scientific & Industrial
Researches compilation of

With reference to your Memo No.389/40-4 of the 30th instant forwarding to us copy of your letter No.248-32/40-41 of the 6th idem, we have nothing to report, as we have not taken up any research work.

Yours faithfully,

Secretary

Acknowledged

No. ... 195

GN

THE MYSORE IRON & STEEL WORKS,

(GOVERNMENT OF MYSORE)

TELEGRAPHIC ADDRESS:
'MYSIRON' BHADRAVATI
CODES:
BENTLEY'S
WESTERN UNION FIVE LETTER
A. B. C. 6TH EDITION

BHADRAVATI (INDIA)

2nd February 1941.

Ref. No. B. 164

The Secretary,
Industrial Research Board,
BANGALORE.

Dear Sir,

Re: Scientific and Industrial Researches
Compilation of.

As requested in your letter No.248-32/40-41 dated the 6th January 1941, we enclose herewith a report in duplicate on the research work done and problems under investigation in the Mysore Iron and Steel Works, Bhadravati.

R.O. 6005
Acknowledged
3/2/41

Yours faithfully,
For The Mysore Iron and Steel Works,

K. Hanumanthaiya
General Manager.

Encl:

INDUSTRIAL R. SEARCH BOARD
No. 191
Date 3/2
OFFICE OF
BANGALORE.

THE MYSORE IRON AND STEEL WORKS
BHADRAVATI

INDUSTRIAL RESEARCH WORK UNDERTAKEN AT THE MYSORE IRON AND STEEL WORKS, BHADRAVATI.

A. Problems under Research during 1939-40:--

1. Phenol-formaldehyde moulding powder.
2. Manufacture of Acetic Acid.
3. Protein plastics from groundnut oil-cake.
4. Carbon and natural graphite electrodes.

B. Problems under investigation during 1940-41:--

1. Phenol-formaldehyde moulding powder.
2. Manufacture of Acetic Acid.
3. Manufacture of Formaldehyde.
4. Carbon and Natural Graphite Electrodes.
5. Special Steels.

1. Phenol - formaldehyde moulding powder.

A pilot Plant with a capacity of 1/2 Cwt. of powder per 8 hours has been erected and trial operations successfully completed. Samples of moulding powders have been sent to the Government Electric Factory, Bangalore, for trial and their opinion is awaited. The Plant is expected to be ready for regular manufacture in a few days.

Phenol and Cresols from Indian sources are being examined as to their suitability for the manufacture of moulding powders.

2. Acetic Acid.--The manufacture of Acetic Acid from pyroligneous liquor via Sodium ~~Acetic~~ Acetate and Sulphuric Acid was examined as there happens to be a local market for sodium sulphate, the Mysore Paper Mills consuming this chemical to the extent of two tons a day. In order to meet this local demand for sodium sulphate and take full advantage of the war-time market for acetic acid, this process was fully investigated and found profitable. A scheme for a semi-commercial Plant has been prepared and is under consideration of the Management. Meanwhile, a new process for the recovery of acetic acid from Pyro liquor and claimed to be very cheap has been patented in Ceylon. This process is now under investigation before taking further steps in the matter. There is however likely to be some delay in taking up this scheme as the military requirements of Calcium Acetate have to be met with.

3. Formaldehyde.--A second-hand plant of a capacity of about five tons of formalin has been purchased and is under erection. It is hoped that we will be able to manufacture this chemical in a month or two.

4. Carbon and Graphite Electrodes.--Experiments in connection with graphitising of petroleum coke are progressing satisfactorily. The results are very encouraging and in the course of the next few weeks, large scale trials will be

attempted.

5. Special Steels.--At the time of the outbreak of war, we were faced with a serious shortage of special steel tools for machining work. A good deal of investigation has been carried out, and the results obtained so far encourage us to undertake further steps required in order to meet the stringent demands for high class tools.

K. Venkatachar
General Manager.

Bhadravati,)
D/2-2-1941.)

BNM:6

Tele. { Phone 2004
Grams—Induscom.

In reply please quote No., date and brief title

DEPARTMENT OF INDUSTRIES AND COMMERCE.

From B.G.A.Mudaliar, Esq., B.A., B.Sc., A.M.I.Mech.E.,

Designation Director of Industries & Commerce in Mysore, Bangalore.

To The Secretary, Industrial Research Board, Bangalore.

No. D4/Gl.13876/40-41. Dated 3rd February 1941.

Subject:- Compilation of Scientific and Industrial Researches.

With reference to your letter dated 27th January 1941 requesting me to forward the information in connection with the above subject, I have the honor to state that it is reported to me by the Superintendent of Sericulture, Mysore, that the required information in respect of Sericulture has been furnished to you with his letter No.4243 dated 20-1-1941.

Rec'd

Information from the Superintendent, C.T.Institute and from the Industrial Engineer, Bangalore may be awaited. I have requested these two officers to furnish the required

Await

the required information pertaining to their sections immediately.

I have the honor to be,

S i r,

Your most obedient servant,

L. Whitehead

FOR DIRECTOR 3/4

ATR

Do 4012/140-1

4th February 1

Dear Mr. Jabbar

Subject: Scientific and Industrial Researches - Compilation of.

Refce: This office letter No.230-7/40-41 dated 6th January 41 and reminder on the 27th January 41.

I shall be extremely obliged if you can kindly arrange to forward the information immediately.

Yours

S

e/s

C.Abdul Jabbar, Esq., B.A.,
Chief Conservator of Forests
in Mysore, Bangalore.

HSR)

Tele. { Phone 2004
Grams—Induscom.

In reply please quote No. & date and brief title

DEPARTMENT OF INDUSTRIES AND COMMERCE.

From B.G.A.Mudaliar, Esq., B.A., B.Sc., A.M.I.Mech.E.,

Designation Director of Industries & Commerce in Mysore, Bangalore.

To The Secretary, Industrial Research Board, Bangalore city

No. D4/Gl.13786/40-41. Dated 4th February 1941
Encl.

SIR,

Subject:- Compilation of scientific and Industrial Researches.

In continuation of my letter of even number dated 3-2-1941 on the above subject, I have the honor to state that the Superintendent, C.I.Workshop has reported to me in his memo No.376 dated 30-1-1941 that he has furnished to you the required particulars. The Superintendent, C.T.Institute from whom the information is due has been reminded to-day.

I have the honor to be,
S i r,
Your most obedient servant,

K 5/2.

ATR)3.

SECRETARY INDUSTRIAL RESEARCH BOARD No. 200 Date 5/2/41 P.O. BANGALORE.

FOR DIRECTOR.

GOVERNMENT ELECTRIC FACTORY

PHONE: 2046.
TELEGRAMS: "GEF" BANGALORE
CODE: A.B.C. 6TH EDITION.

ELECTRICAL ENGINEERS, ILLUMINATING ENGINEERS, TOOL MAKERS, MACHINE CONSTRUCTORS, PLASTICS MOULDERS, ELECTRICAL MATERIAL AND TRANSFORMER MANUFACTURERS, HARDWARE MANUFACTURERS.

MYSORE ROAD,
BANGALORE CITY.

4th. February 1941,

Ref G- 11689.

The Secretary,
Industrial Research Board,
Mysore Road,
Bangalore.

Dear Sir,

Sub:-Scientific & Industrial Researches.
Ref:-Your No.248-32/40-41 of 6-1-1941.

With reference to your above letter, I wish to inform you that so far only a few experiments have been conducted in this Factory incidental to specific manufacturing problems. They do not merit the notice of the Industrial Research Board as the results obtained are not of General Industrial importance.

In view of the threatened shortage of steel for industrial and engineering purposes, an immediate need has arisen for not only curtailing the use of steel wherever possible but also for conserving our resources.

Hence the utilization of Steel Shavings thrown out by various machine tools while in operation, which, as far as my information goes, are being wasted everywhere, presents an interesting problem to solve, and if it is successful it would be of immense economic importance.

This may perhaps be included in the agenda for next meeting.

Dft note put up to Chairman

Action Taken Separately.

I understand that the real difficulty of the problem consists in avoiding the loss of metal due to vapourisation when these shavings (generally in the form of very thin ribbons) are fed directly into the furnace whose temperature is in the neighbourhood of 1500°C.

Perhaps a method could be evolved for feeding these shavings into a crucible containing molten metal of same nature and the entire contents cast into ingots, for being used otherwise.

Should this problem be successfully solved, a good deal of wastage can be prevented by collecting these shavings from the various workshops to be converted into ingots and utilised otherwise.

I regret that the reference in question could not be replied earlier.

Yours faithfully,
Government Electric Factory.

General Manager.

HSK.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD BANGALORE.
F No. 198
Date 4/2/41

TELEPHONE NO. 333

GOVERNMENT OF MYSORE

SRI CHAMARAJENDRA TECHNICAL INSTITUTE

(DEPARTMENT OF INDUSTRIES & COMMERCE)

Ref No. 141

Encls.

OFFICE OF THE SUPERINTENDENT,

Mysore, Dated 5th February 1941.

From

S. RAMASWAMY, Esq.,
SUPERINTENDENT, CHAMARAJENDRA TECHNICAL INSTITUTE,
MYSORE.

To

The Secretary,
Industrial Research Board,
Bangalore.

Sir,

Subject:- Scientific and Industrial
Researhhes - compilation of.

With reference to your letter No.237-6/40-41 dated 6-1-1941 addressed to the Director of Industries and Commerce in Mysore, Bangalore, on the above subject, I have the honour to state that no research work has been undertaken by this Institute nor is it proposed to undertake any such work during the course of next year.

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD. BANGALORE.
No. 205
Date 6/2/41

I have the honour to be,
Sir,
Your most obedient servant,
S. Ramaswamy
Superintendent.

Acknowledged
6/2

TELEGRAMS: "TESTLAB" TELEPHONE No 2024, CITY

GOVERNMENT INDUSTRIAL & TESTING LABORATORY

~~BITUMEN SECTION~~

YOUR REF. NO. .....

OUR REF. NO. 7824

ENC. .....

To 3 Copies in duplicate

MALLESWARAM P.O.
BANGALORE

Date 6th February 1941.

The Secretary,
Industrial Research Board,
Mysore Road, Bangalore City.

Dear Sir,

Compilation of Scientific and Industrial researches.

1) Acknowledge 10/2

With reference to your circular letter No.248/32/40-41 dated 6-1-1941, we are enclosing herewith as desired a list of researches undertaken by this laboratory during 1938-39 and 39-40. A list of researches proposed to be taken will be intimated in due course.

2) Request him to send this early

Yours faithfully,

Chief Chemist I/C.
Indl.& Testing Laboratory.

SKN

OFFICE OF THE SECRETARY INDUSTRIAL R. SE... No. 207 Date 10/2 BANGALORE ... HEN

9/2/41

Chief chemist to see & return the Ltr copy

7/3/41

TELEPHONE: 2145 CITY

GOVERNMENT SOAP FACTORY

TELEGRAMS:
"SOAPS" BANGALORE
CODES: BENTLEY'S & A.B.C.
5TH & 6TH EDITIONS.

No S615
ENCL. One in Dup.

Bangalore, 5th February'41.
6/t

The Secretary,
Industrial Research Board,
BANGALORE.

Dear Sir,

Ref: Your letters No.248-32/40-41 dated 6-1-41 and No.351-15 40-41 dated 27-1-1941.

With reference to the information called for in your above letters, I have herewith furnished the same in duplicate in my enclosures to this letter.

Yours faithfully,

Superintendent.

mv.

RS 9/2/41

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD
No. 209
Date 10/2
BANGALORE.

GOVERNMENT SOAP FACTORY, BANGALORE

5th February 1941.

1) Name of the Department or Institution. : Government Soap Factory, Bangalore.

2) List of Industrial Researches undertaken:-

(a) Up-to 1st July 1939.

A number of industrial researches have been conducted since the inception of the factory and they have been reported to Government during the course of these years. But I give below only such of the researches as were conducted during the 3 years ending June 1939.

1) Distillation of Patchouli oil from Singapore and local Patchouli leaves.

2) Recovery of Crude Glycerine(80%) from Soap Lye.

3) Preparation of Chemically pure Glycerine from the above crude glycerine on a laboratory scale.

4) Preparation of Papain from raw papaya fruit.

5) Distillation of various essential oils from indigenous essential oil plants other than Patchouli, such as Lemon-grass, Vetivert, Karibevu leaves(Murayya Koenigii) and Kothumbari leaves(Coriander Sativum).

(b) During 1939-1940.

1) Patchouli cuttings obtained from Singapore and Geranium cuttings from Yercaud, Salem, were propogated in the Factory nursery.

2) Citrol was prepared from Lemon-grass oil in the laboratory with a view to convert it into Ionone.

(c) Progress in brief.

1) The results of distilling Patchouli leaves(Pagostemon

Patchouli) have shown that the leaves of the Singapore plants have a higher oil content than those of the indigenous plant. Hence about 6 dozen cuttings of this plant were, with great difficulty, obtained from Singapore and planted in the Factory nursery. But only two took root and out of these two plants, we were able to raise about 40 more plants. We supplied 20 of these saplings (grown in the factory) to the Agricultural Department for their investigation and the rest were allowed to grow in the factory itself. These plants have flourished well and are now fully grown to about 6 ft. in height. It is anticipated that the leaves of these plants will give as much yield as the leaves from the parent plants of Singapore. But this is a matter yet to be investigated. But if our hopes materialise, then the question of growing these plants on a large scale is full of commercial possibilities.

2) As has been mentioned earlier, we have reared a number of Geranium plants from cutting obtained from Yercaud. Rev. A. Faisandier of Yercaud has 75 acres under geranium cultivation in that place. A few others also have started growing geranium in their coffee estates in the same place. They have found that it is quite a profitable thing to do so. But the whole question centres round the fact, of growing these plants at almost no cost. This, I consider, is a matter for the investigation of the Forest or the Agricultural Department.

Personally, I feel that the plant will thrive well in Kadur or Shimoga District on the mountain slopes of hills. If, to start with, funds to the extent of Rs.1,000/- are made available for this investigation, the factory will be able to investigate the matter with the co-operation of the Forest and the Agricultural Departments.

3) The manufacture of Ionone from Lemon-grass oil was attempted. Some experiments were conducted and the intermediate product of Citrol was obtained on a laboratory scale. But, owing to the shift work now introduced in the factory, both the chemists of the factory are fully occupied and cannot spare any time for research work. As such, the factory feels the necessity for the appointment of another Chemist if research work is to be carried on in the Factory uninterruptedly.

M. Narasimha Rao

RS. Superintendent.

D.O 420/40-1

5th February 1

Dear Sir,

Sub: Scientific and Industrial Researches Compilation 6f.
Ref: This office letter No.248-32 dated 6th Jany.41 and subsequent reminder on the 27th Jany.41.

I shall be extremely obliged if you can kindly arrange to forward the information immediately.

yours sincerely,

M.K. Narasimhan, Esq., B.A.,
Officer in charge,
Government Cement Plant,
Bhadravati.

MYSORE FOREST DEPARTMENT.

No. 2-62/656/37
Encl. one

CHIEF CONSERVATOR'S OFFICE,
Bangalore, dated .. ....6....Febry.... 1941

FROM

The Chief Conservator of Forests in Mysore,
Bangalore.

To

The Secretary,
Industrial Research
Board, Bangalore. ✓

Re:- Scientific and Industrial Researches -
compilation of.

Sir,

With reference to your letter No.230-7 dated the 6th ultimo and subsequent reminder letter No.366-6/40-41 dated the 27th idem on the above subject, I have the honour to forward herewith a brief note of progress of work turned out etc., in Wood Technological and Chemistry Sections of the Forest Research Laboratory, Bangalore, as desired.

Ack with thanks

OF THE SECRETARY INDUSTRIAL RESEARCH BOARD
No. 214
Date 10/2

I have the honour to be,
Sir,
Your most obedient servant,

Chief Conservator of Forests.

Ack with thanks 9/2/41

PROGRESS OF INVESTIGATIONS AND INDUSTRIAL RESEARCHES TAKEN UP IN VARIOUS SECTIONS OF THE FOREST RESEARCH LABORATORY, BANGALORE.

(i) Forest Research Laboratory.

(ii) Cinchona:- Samples of bark from the existing stock from all over the State have been analysed and the averages of a large number of individual analyses have given an indication of the commercial value of these samples. Steps have been taken to constitute into a State Forest one of the promising areas near Mudgere. This block has some 300 Cinchona plants which have been abandoned and have since been maltreated. The idea is to conserve the existing stock and if possible to extend cultivation. At the same time the soils from different possible localities have been examined to see if these satisfy requirements for Cinchona as laid down by the Cinchona Experts of the Government of India. Attempts to raise seedlings of authentic origin from the seeds obtained from Niduvatham (Madras) were unsuccessful as the seeds failed to germinate satisfactorily but in Koppa fair germination has been obtained from seeds got from Bengal and the planting material is being raised with care. The raising of the species by cuttings is under investigation.

(iii) Only problems of pure research were taken during the year, excepting the Sylvicultural studies that were made on the possibility of improving the yield of flowers in case of Pyrethrum plants. This work is still being continued and the percentage of flowering in case of these plants has been improved from 36 to 50 by having recourse to selection system. If successful this should be an important item of Industrial research so far as the production of insecticides is concerned. Percentage of Pyrethrum contents in case of flowers produced in the above different generations of Pyrethrum plants is also being studied hand in hand.

(iv) Utilization of jungle woods by adopting newer methods of construction, surfacting and finishing. Several experiments

experiments have been started to study artificial staining and surface treating of wood to meet the requirements of pi/cture-frame Industry and high class cabinet construction and for water and fire proofing of wood. These experiments are in progress at present.

(b) Battery separators made in wood:- A study of the structure and chemical aspect of various Mysore woods is being made with a view to finding a substitute to European species. This work has also commenced and has found to be of extreme commercial importance.

'A' (c) Experimentation on the construction of bobbins, pirns and shuttles fromout of suitable species of woods indigenous to Mysore: This work requires in addition, collection of elaborate data both commercial and scientific. Preliminary experimentation has already commenced in the Laboratory.

There are immense possibilities associated with this Industry in India.

'A'
The Spun Silk mills in fact had Suggested This. Govt of India have also taken up this work. This may perhaps be achieving Success in view of the great possibilities. Quite so.
Sd/-
9/2/41

Chief Conservator of Forests.
10/2

THE MYSORE IRON & STEEL WORKS,

(GOVERNMENT OF MYSORE)

TELEGRAPHIC ADDRESS:
'MYSIRON' BHADRAVATI
CODES:
BENTLEY'S
WESTERN UNION FIVE LETTER
A. B. C. 6TH EDITION

3889

BHADRAVATI (INDIA)
12th February 1941

Ref. No.....

The Secretary,
Industrial Research Board,
Bangalore.

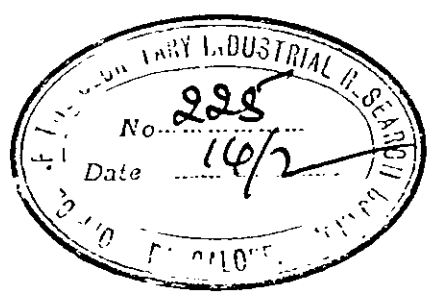
Dear Sir,

Re: Scientific and Industrial Researches - compilation of.

With reference to your D.O.letter No.420/40-1 dated the 5th instant addressed to our Mr. M. K. Narasimhan, Superintendent, Cement Plant, we write to inform you that a consolidated report on the subject has already been forwarded to you with our letter No.B.164 dated the 2nd instant.

We may, in this connection, intimate that the Cement Plant is also a department of our Works.

14/2



Yours faithfully,
for THE MYSORE IRON & STEEL WORKS:

K. Venkatachalapathi
General Manager.

glcl

Tel. Address: UNIREG.'
Telephone No. 277.

University of Mysore

No. 21194
Enc. 2 Statements in Duplicate

Office of the University of Mysore,
Mysore, Dated 8. 2. 1941.

FROM
DR. C. S. PICHAMUTHU, B.Sc., PH.D., (GLAS.)., F.R.S.E., F.G.S.,
Offg. Registrar, University of Mysore,
Mysore.

To

The Secretary,
Industrial Research Board,
Mysore Road,
Bangalore City.

Sir,

In continuation of this office letter No.16228, dated the 11th January 1941, regarding the establishment of an Industrial Research Board, I am directed to forward herewith two statements, in duplicate, in respect of the Central College and the College of Engineering, Bangalore, furnishing information on the points referred to in the penultimate paragraph of your letter dated the 6th January 1941.

I have the honour to be,
Sir,
Your most obedient servant,

Offg. Registrar.

Acknowledge
9/2/41

S-

OFFICE OF THE SECRETARY INDUSTRIAL RESEARCH BOARD CENTRAL
No. 210
Date 10/2
BANGALORE.

UNIVERSITY OF MYSORE.

CENTRAL COLLEGE, BANGALORE.

List of Industrial Researches undertaken.

Work done during 1939-40.

Subject: Determination of water in absolute alcohol.

Department: Chemistry Department.

Brief Description of the work. A simple and accurate method for determining traces of water in absolute alcohol has been worked out. The method consists in preparing a saturated solution of sodium chloride in the sample of alcohol and determining the conductivity. It is hoped that this will be used for routine determinations of water in absolute alcohol in all distilleries since the technique is simple and the results accurate.

(This method can be conveniently employed for testing the suitability of a sample of absolute alcohol for using as power alcohol).

Work in progress during 1940-41.

Subject: Wetting Agents.

Department: Chemistry Department.

Brief description of the work. A new and simple method has been worked out for determining the efficiency of wetting agents. The method is based on the determination of apparent density of yarn under wetting agent solutions. Work on the efficiency of certain local products (having wetting properties) is in progress.

New items.

Subject: Desulphurization of coke.

Department: Chemistry Department.

Objective or Industrial application of the work. The work has been undertaken at the suggestion of Dr.J.C.Ghosh, Director, Indian Institute of Science.

A variety of coal found in Assam in large quantities is unsuitable for industrial use owing to its high sulpher content. Attempts are being made in this laboratory to evolve a method of desulphurizing the coke obtained from this coal.

(Being tried on a laboratory scale at present).

C. B. Ramachar

Principal,
Central College, Bangalore.

mar)24-1-1941.

UNIVERSITY OF MYSORE.

CENTRAL COLLEGE, BANGALORE.

List of Industrial Researches undertaken.

Work done during 1939-40:

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Department: Chemistry Department.

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(Being tried on a laboratory scale at present).

C V Mahadevan

Principal,
Central College, Bangalore.

msr)24-1-1941.

COLLEGE OF ENGINEERING, BANGALORE.

LIST OF INDUSTRIAL RESEARCHES MADE.

1. Name of Department or Institution.	Mechanical Engineering Department, Engineering College, Bangalore.
2. List of Industrial Researches undertaken	
a) upto 1st July 1939:—	1. Experiments on Semi-Steel (Published 2. Strength of different kinds of timber available in Mysore State (Published). 3. Experiments on water white Methanol from Bhadravati Iron & Steel Works with a view to find out its suitability as fuel in internal combustion Engines in place of petrol. (Report sent to Iron & Steel Works)
b) during 1939-40:—	Nil
c) Progress in brief:—	Nil
3. List of new Industrial Researches proposed to be taken up during the year 1940-1941	1. Experiments to be conducted on Petrol Alcohol mixtures with a view to find out the best percentage of mixture for motor cars. (Alcohol from Mysore Sugar Co., to be used) 2. Research on the lubricating value of indigenous vegetable oils.

PRINCIPAL.

COLLEGE OF ENGINEERING, BANGALORE.

LIST OF INDUSTRIAL RESEARCHES MADE.

1. Name of Department or Institution. — Mechanical Engineering Department, Engineering College, Bangalore.

2. List of Industrial Researches undertaken

a) upto 1st July 1939 :-

1. Experiments on Semi-Steel (Published
2. Strength of different kinds of timber available in Mysore State (Published)
3. Experiments on water white Methanol from Bhadravati Iron & Steel Works with a view to find out its suitability as fuel in internal combustion Engines in place of petrol. (Report sent to Iron & Steel Works)

b) during 1939-40 :— Nil

c) Progress in brief :— Nil

3. List of new Industrial Researches proposed to be taken up during the year 1940-1941

1. Experiments to be conducted on Petrol Alcohol mixtures with a view to find out the best percentage of mixture for motorcars. (Alcohol from Mysore Sugar Co., to be used)
2. Research on the lubricating value of indigenous vegetable oils.

V Venkataram

PRINCIPAL.

Do 509
401

7th March 1

Dear Mr.Krishna,

Subject: Industrial Researches.

Refce: Your letter No.7-24 dated 6-2-41.

The list of Researches proposed to be taken up by the Laboratory, promised by you to be forwarded early, has not yet been received. Will you please expedite the forwardal of the same?

Yours sincerely,

B.H. Krishna,Esq.,M.Sc.,A.I.C.,
Chief Chemist, Government
Industrial & Testing Laboratory,
P.O. Malleswaram.
Bangalore.

HSR)7-3-41.

Reminder.
29/4/41.

Reminder

Reminder
14/6/41

(Board of Industrial Planning and Coordination.)

10th July 1

23/11.2

Urgent

The Government Director,
Industrial Concerns, Bangalore.

Subject: Compilation of Industrial Researches.

I am directed to state that the Chief Chemist of the Government Industrial and Testing Laboratory - promised to send a list of researches proposed to be taken up during 1940-41 (vide his letter No.7824 dated 6th Feby.1941). In spite of reminders and D.O. reminder and though the official year 1940-41 is over, the list of Researches is not received in this office. Since it is proposed to get a consolidated list of Researches in the State printed and to fecilitate further action being taken as resolved in the recent Board meeting, I am to request you to be so good as to direct the Chief Chemist to fowward the list in duplicate immediately.

I have the honor to be,
Sir,
Your most obedient servant,

SECRETARY.

TELEGRAMS : "TESTLAB" TELEPHONE : No. 2024, CITY

GOVERNMENT INDUSTRIAL AND TESTING LABORATORY

Your Ref. No.

Our Ref. No. A48

Enc.

MALLESWARAM P.O.
BANGALORE

Date 15th July, *194* 1.

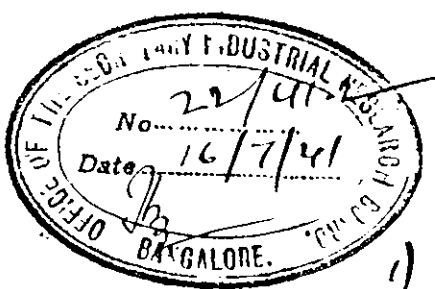
To

The Secretary,
Industrial Research Board,
Bangalore.

Sir,

Re: Industrial Researches at this Laboratory.

I have the honour to enclose herewith a list in duplicate showing the researches taken by this laboratory during 1940-1941.



I have the honour to be,
Sir,
Your most obedient servant.

Chief Chemist I/C
Indl. & Testing Laboratory.

DRJ

1) A/c.
2) Compile.

Acknowledge
16/7

TELEGRAMS : "TESTLAB" TELEPHONE : No. 2024, CITY

GOVERNMENT INDUSTRIAL AND TESTING LABORATORY

Your Ref. No. .....

Our Ref. No. .....

Enc. .....

MALLESWARAM P.O.
BANGALORE

Date 15th July, *194* 1.

List of Researches proposed to be taken up during the year 1940-1941.

1. Investigation of the Lactic fermentation of molasses for the production of Calcium Lactate, lactic acid and other salts and Ethyl lactate.

2. Investigation of the utilisation of Fusel oil obtained as a by-product in the distillery at Mandya.

   (a) For the production of amyl alcohol, (b) of B.P. and analytical reagent quality.
   (b) The production of amyl nitrite of B.P. specifications, and
   (c) Amyl acetate from amyl alcohol and sodium acetate.

3. Investigations on the possibility of producing disinfectants for surgical use in tablet form - incorporating chlorinated xylenols and cresols.

4. Isolation of citral from Lemon grass oil for production of Ionone.

5. Investigations of the utilisation of Cherry husk--a waste product from Coffee Curing Works as a source of Caffeine instead of tea dust generally used.

6. Production of Creosote of B.P. specifications by fractionation and purifications of Wood Tar obtained at Mysore Iron & Steel Works, Bhadravati.

7. Production of "Coffee essence" or extract.

8. Production of Vitamin A as concentrate from liver.

9. Study of the utilisation of Castor oil for the production of certain perfumery chemicals like heptyl alcohol ocnanthic aldehyde, amyl cinnamon aldehyde etc.

10. Production of anti-anaemic principles of liver in high concentrations suitable for intra-muscular administrations.

11. Production of Ammonium Carbonate from Ammonia and sulphate of ammonia.

12. Study of Citric acid fermentation of sugar.

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11. Production of Ammonium Carbonate from Ammonia and sulphate of ammonia.

12. Study of Citric acid fermentation of sugar.

Chief Chemist in Charge,
Govt. Industrial & Testing Laboratory

Mysore State.

C.List of Industrial Researches in Progress during the year 1937-38 and continued during the year 1938-39.

Sl. No.	Subject.	Name & Address of Experimental Establishment conducting the work.	Brief description of the experiment and stage of development.	Laboratory scale or semi-commercial scale; if latter whether any pilot plant used.	Remarks.
1.)	Disinfectant & Antiseptics.	Govt.Industrial & Testing Laboratory.	Antiseptic solutions using chlorinated phenol derivatives in a combined alcoholic and saponaceous solution together with essential oils known to possess valuable antiseptic properties, were prepared and systematic tests were carried out both in the Laboratory and in hospitals.	The experiments were conducted on a semi commercial scale. No pilot plant is used.	
2.)	Preparation of Anti-anaemic principle of liver.	-do-	A product suitable for oral administration was developed and prolonged tests in hospitals proved that the product is active and more satisfactory than many of the reputed brands.	Semi commercial experiments were conducted, a special pilot plant particularly an evaporator for concentration at very low temperature being installed.	
	Production of Silver proteniates of the type of Argyrol and Protargol.	-do-	Conditions for obtaining a proper protein hydrolysates from Casein and Gelatine by treatment with alkali which would form the required silver complexes were systematically studied. The equipment required for the processes were studied with a view to determine the proper type of equipment necessary for various stages of processing.	Only Laboratory scale experiments were conducted.	The work is still being continued. Continuous attention cannot be devoted for want of adequate staff.

Easters.

fractionation of the easters of Hydno-carpus oil to obtain a fraction of the Ester producing the least amount of ~~xxxx~~ pain on the sight of injection was studied in collaboration with the Medical Department. Special fractions of methyl ester are now being supplied to the Medical Department. Further trials are being conducted on Benzyl ester.

Mysore State.

C.List of Industrial Researches in Progress during the year 1937-38 and continued during the year 1938-39.

Sl. No.	Subject.	Name & Address of Experimental Establishment conducting the work.	Brief description of the experiment and stage of development.	Laboratory scale or semi-commercial scale; if latter whether any pilot plant used.	Remarks.
1)	Disinfectant & Antiseptics.	Govt.Industrial & Testing Laboratory.	Antiseptic solutions using chlorinated phenol derivatives in a combined alcoholic and saponaceous solution together with essential oilsknown to possess valuable antiseptic properties were prepared and systematic tests were carried out both in the Laboratory and in hospitals.	The experiments were conducted on a semi commercial scale. No pilot plant is used.	
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4)	Production of Benzyl Ethyl		Methods for the production &		

Esters.

of Hydno-carpus oil to obtain a fraction of the Ester producing the least amount of ~~pxxx~~ pain on the sight of injection was studied in collaboration with the Medical Department. Special fractions of methyl ester are now being supplied to the Medical Department. Further trials are being conducted on Benzyl ester.

D. New items of Industrial Research in progress during the year 1938-39.

Sl. No.	Subject.	Name & address of Experimental Establishment conducting the work.	Objective or Industrial application of the work.	Laboratory scale or semi-commercial scale, if latter, whether any pilot plant used.	Remarks.
1.	Manufacture of Ferric Chloride.	Government Industrial & Testing Laboratory.	For the Utilization as clarifying agents in sewage disposal.	Only Laboratory scale experiments were carried out to investigate suitability of Red Haematite ore.	

Mysore State. E.List of Industrial Researches contemplated for the year 1939-40.

Sl. No.	Subject	Name & Address of experimental establishment where the work is proposed to be conducted.	Objective or Industrial application of the work.	Laboratory scale of semi commercial scale: if later, whether any pilot plant is intended to be used.	Remarks.
1)	Extraction of caffeine from cherry husk.	Govt.Industrial & Testing Laboratory.	Manufacture of Caffeine.	Laboratory scale work would be conducted and a pilot plant is intended to be used.	
2)	Production of liver Extract for paranteral use.	-do-	For using in Anti-anaemic treatment particularly to replace some very popular imported brands.	Laboratory scale experiments would be conducted along with clinical trials and a pilot plant would be set up.	
3)	Manufacture of Calcium Lactate and Lactic Acid from molasses.	-do-	Production of Calcium Lactate imported in large quantities and used in medicines and also Lactic acid used in medicines, textiles, etc.,		
4)	Production of Acetates of Sodium and Potassium.	-do-	A locally available Grey Acetate of lime, a by-product of Wood Distillation Industry is used as a source of Acetic Acid. Soda Ash & Sulphate of Potash available with Fertilisers being the source of Soda and Potash respectively.	Laboratory scale and semi commercial plant is expected to be set up.	

List E (Continued).

1.	2.	3.	4.	5.	6.
5.	Production of Calcium Gluconate by moulds as also by electrolytic oxidation.	To replace to the extent possible the imported materials.	A semi commercial plant would be set up if the laboratory experiments prove to be successful.		

D. New items of Industrial Research in progress during the year 1938-39.

Sl. No.	Subject.	Name & address of Experimental Establishment conducting the work.	Objective or Industrial application of the work.	Laboratory scale of semi-commercial scale, if latter; whether any pilot plant used.	Remarks.
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List E (Continued).

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5.	Production of Calcium Gluconate by moulds as also by electrolytic oxidation.	To replace to the extent possible the imported materials.	A semi commercial plant would be set up if the laboratory experiments prove to be successful.		

(Board of Industrial Planning & Coordinatio

28th July 1

Urgent.

44/ec.2
3

The Superintendent,
Government Press, Bangalore.

I am directed to send herein enclosed a typed copy of the brief survey of Industrial Researches (Bulletin No.1.) together with a short note for being printed. The enclosed matter may be arranged and printed in the form of a pamphlet. Matter for the front page is also enclosed. Kindly arrange to print and supply 100 copies of the same very early. Before final copies are struck, proof may be forwarded for correction, if any.

Kindly acknowledge receipt.

I have the honor to be,
Sir,
Your most obedient servant,

SECRETARY.

HSR\.

No. 66/41-2
Printed reminder.
13/8/41

Board of Industrial Planning and Coordination.

A brief Survey of Industrial Researches Carried out in the Mysore State

(Compiled as per replies received)

The short account given here of industrial researches carried out in the State is neither exhaustive nor descriptive in details. This Survey was undertaken to ~~Kno~~ Know the present position re: such researches completed and in Progress, so that work in this direction might be Coordinated if any ~~fresh~~ research or investigations interest any particular institution or industrialist, either for Commercial adoption or otherwise. We could do so by getting into touch with the Institutions. It will be seen from the Survey that barring a few ~~few~~ institutions - Mostly Govt. - no ind. Researches are

[redacted]
are undertaken in any
institutions in the State.

Secy.

25/7/44.

(Matter to be printed on the first page of the bulletin.)

(Cursive)

BOARD OF INDUSTRIAL PLANNING AND COORDINATION.

A brief survey of Industrial Researches carried out in the Mysore State.

(Compiled as per replies received)

The short account given here re: Industrial Researches carried out in the State is neither exhaustive nor descriptive in details. This survey was undertaken to know the present position re: Industrial Researches completed and in-progress, so that work in this direction might be coordinated and if any research or investigation interest any particular Institution or Industrialists either for commercial adoption or otherwise, they could do so by getting into touch with the Institutions. It will be seen from the Survey that barring a few Institutions - mostly Government - no industrial researches are undertaken in any of the Institutions in the State.

Secretary.

Note:

The statement attached to be printed from 2nd page on wards.

(Matter to be printed on the front page.)

GOVERNMENT OF MYSORE.

BOARD OF INDUSTRIAL PLANNING AND COORDINATION.

A BRIEF SURVEY OF INDUSTRIAL RESEARCHES ~~CARRIED OUT~~ IN THE ~~MYSORE~~ STATE.

(Bulletin No.1 of 1941-42.)

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GOVERNMENT OF MYSORE

Telegraphic Address

OFFICE OF THE
Superintendent,
Government Printing,
Bangalore.

No. P.W.425
Encls.

Dated the 19th August 1941.
20

To

The Secretary,

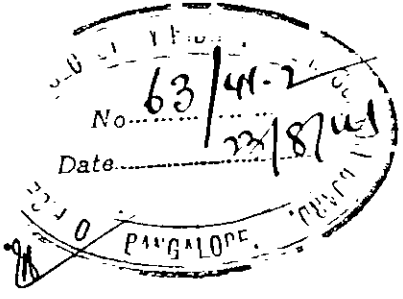
Industrial Researches Board, BANGALORE.

B 2819

Sir,

With reference to your letter No.44, dated the 28th July 1941, regarding Brief Survey of Industrial Researches for being printed, I have the honour to state that sanction of Government is necessary for the printing of such works at the Government Press. Therefore, it is requested that a copy of G.O.authorising the printing of the same at the Government Press may kindly be sent, if Government sanction has already been obtained .

On hearing from you, the work will be taken on hand for being executed.



I have the honour to be,
Sir,
Your most obedient servant,

Superintendent. 9/8/41

RC

(Board of Industrial Planning and Coordination)

28th August

102/III-2
Urgent

The Superintendent,
Government Printing,
Bangalore.

With reference to your letter No.p.w.425 dated 19/20th August 1941 re:printing of "Brief Survey of Industrial Researches" etc., I am directed to send herein enclosed a copy of letter from the Development Secretary authorising you to print and supply all the requirements of the Board, free of cost as and when required, for reference.

Since the publication is urgently required, I am to request you to be so good as to issue immediate instructions to execute the work.

I have the honor to be,
Sir,
Your most obedient servant,

SECRETARY.

HSR)

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GOVERNMENT OF MYSORE.

BOARD OF INDUSTRIAL PLANNING AND CO-ORDINATION.

A BRIEF SURVEY
OF
INDUSTRIAL RESEARCHES IN THE STATE.

(Bulletin No. 1 of 1941-42)

Approved. The Corrections notes may kindly be incorporated. on Page 5 the matter printed in ~~Column 3~~ Column 4, against item 12 to be shifted and printed in Column 4 against item 13. If there is any doubt this Proof may be forwarded otherwise Copies may be struck duly noting the Corrections.

K Basilliasamy
Secretary,
Industrial Research Board
BANGALORE

25/X/41.

BANGALORE:
PRINTED BY THE SUPNRINTENDENT AT THE GOVT. PRESS
1941.

Kew

BOARD OF INDUSTRIAL PLANNING AND CO-ORDINATION.

A brief survey of Industrial Researches carried out in the Mysore State.

(COMPILED AS PER REPLIES RECEIVED)

The short account given here *re* industrial researches carried out in the State is neither exhaustive nor descriptive in details. This survey was undertaken to know the present position *re* industrial researches completed and in progress, so that work in this direction might be co-ordinated It will be seen from the survey that barring a few institutions—mostly Government—no industrial researches are undertaken in any of the institutions in the State.

BANGALORE,
~~*Dated 28th July 1941.*~~
October 1941.

K. PARTHASARATHI,
Secretary.

Board of Industrial Planning and Co-ordination.

Consolidated list of industrial researches engaging the attention of the several Industrial Concerns, Laboratories, and other institutions—Government, Government-aided, and private in the State.

Name of department or institutions	Items of industrial researches undertaken		New items of industrial researches contemplated for 1940-41
	Up to 1st July 1939	During the year 1939-40	
1. Government Sandal wood Oil Factory, Mysore.	Nil ...	Nil ...	1. Manufacture of the following essential oils. (*a*) Oleum Anise B. P. (*b*) Oleum Menth Piperata B. P. (*c*) Oleum Juniperi B. P. (*d*) Clove oil.
2. Government Bitumen Plants Bangalore, Mysore, and Hassan.	Nil ...	Nil ...	Nil
3. Government Lac and Paint Works, Mysore.	Manufacture of oil paints utilising local raw materials such as ochres, etc.	1. Manufacture of oil paints of popular shades. 2. Manufacture of printing ink ... 3. Manufacture of special paints. Manufacture of paints—acid proof and alkali proof—etc. Regular manufacture has already commenced and supplies made to the market. Investigations on the manufacture of ink is on hand and will shortly be completed.	1. Manufacture of shellac-nitrocellulose lacquers. 2. Manufacture of shellac moulding powder. 3. Manufacture of pigments chromium oxide, and lead chromates in different shades from sodium dichromate that will be manufactured by Government Dichromate Factory. 4. Manufacture of aluminium paint and varnish.
4. Government Central Industrial Workshop, Bangalore.	1. Experiments with wooden oil mill for the extraction of oil. 2. Machine for threashing ragi ... 3. Well-pumps to be worked by manual labour. 4. Bullock carts with ball bearings, etc., to reduce the draught on the bullocks.	1. Experiments continued on items 3 and 4 mentioned in column II. Ragi threashing machine proved satisfactory. Oil mills—two of ~~them were~~ already working and it is reported that the oil produced is superior in quality. One hand deep well-pump has been fitted in Saklespur Taluk; report is awaited. Improved bullock carts are also successful.	1. Small machines suitable for button making to be organised on a cottage industry basis. 2. Machinery for trying abrasive wheels. 3. Lubricants with graphite as basis. Items 2 and 3 to be tried in collaboration with Mr. P. S. Narayana, Consulting Industrial Geologist, Bangalore. 4. The application of gas engine for road vehicles.
5. Sri Chamarajendra Technical Institute, Mysore.	Nil ...	Nil ...	Nil

Them are

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Read

Board of Industrial Planning and Co-ordination—*contd.*

Name of department or institution	Industrial researches undertaken		New items of industrial researches contemplated for the year 1940–41
	Up to 1st July 1939	During the year 1939–40	
6. Department of Sericulture, Central Silk Farms at Mysore, Channapatna, Kolar, Sidlaghatta, Kunigal, and Mugur.	Experiments connected with mulberry cultivation, rearing of worms and grainage technique were conducted, in addition to several other experiments.	1. Research work on the refrigeration of multivoltine seed cocoons. 2. Research work on the refrigeration of hybrid layings. 3. Hibernation of imported univoltine and bivoltine silk worm eggs. 4. Refrigeration of seed cocoons and eggs from the same and a number of other experimental works started in the previous years were also continued.	All the experiments undertaken in the previous years will be continued to obtain definite results.
7. Government Implements Factory, Hassan.	Nil ...	Nil ...	Nil
8. Mysore Government Iron and Steel Works, Bhadravati.	1. Plastics :— (*a*) Phenol-formaldehyde resin. (*b*) Urea formaldehyde resin. (*c*) Cellulose acetate. (*d*) Vinyl resin. (*e*) Methyl metacrylate resin. (*f*) Marking nut oil resin. 2. Varnishes from wood distillation products. 3. Sponge iron 4. Manganese 5. Carbourundum 6. Electrodes 7. Grinding Wheels 8. Active Charcoal 9. Ferric Chloride 10. Lead Acetate	1. *Phenol-formaldehyde moulding powder.*—Pilot plant capacity ½ cwt. of powder for 8 hours has been erected. Trial operations successfully completed. Opinion from Electric factory awaited *re* sample powder sent for moulding. Phenol and cresols from Indian sources being examined. 2. *Manufacture of acetic acid.*—The manufacture of acetic acid from pyroligneous liquor *via* sodium acetate and sulphuric acid was examined and a scheme for a semi-commercial scale plant is now under consideration of the management. There is however, likely to be some delay in taking up this scheme as the military requirements of calcium acetate have to be met with. 3. *Protein plastics from groundnut oil cake.*— 4. *Carbon and natural graphite electrodes.*—Experiments in connection with graphitising of petroleum coke are progressing satisfactorily. Since the results are very encouraging, large scale trials will be attempted shortly.	1. Phenol-formaldehyde moulding powder. 2. Manufacture of acetic acid. 3. *Manufacture of formaldehyde.*—Second-hand plant of 5 tons capacity of formalin has been purchased and is now under erection. Manufacture of this chemical will soon be taken up. 4. Carbon and natural graphite electrodes. 5. *Special Steels.*—A good deal of investigations have been carried out, with encouraging results, to undertake further steps to meet the stringent demands for high class tools.

Board of Industrial Planning and Co-ordination—*contd.*

Name of department or institution	Industrial researches undertaken		New items of industrial researches contemplated for the year 1940-41
	Up to 1st July 1939	During the year 1939-40	
9. Government Geological Department.	1. Ferro-Alloys:—Investigations dropped since Mysore Iron and Steel Works have taken up as they have better facilities. 2. Chemicals:— (*a*) *Sodium Bichromate.*—Scheme sanctioned by Government and a factory has been set up at Belgola. (*b*) *Alum and aluminium sulphate.*—Further investigations dropped, since the Mysore Chemicals and Fertilisers, have this under their consideration. (*c*) *Potassium permangnate.*—The special Committee have resolved that the scheme might be referred to the Dichromate Factory, to enable them to take up the work as an extension of their activity. (*d*) *Magenesium sulphate.*—No further work has been undertaken. (*e*) *Hydrated lime.*—Samples sent to Paper Mills, and Sugar Co., and it is reported that the samples are not good. (*f*) *Sodium chloride.*—Investigations continued. 3. *Abrasives.*—Further investigations have been entrusted to Mr. Narayana and a grant of Rs. 2,500 has recently been sanctioned by Government as recommended by the sub-committee. 4. *Cement asbestos.*—Investigations since discontiuued. 5. *Ochres.*—Investigations are continued and the possibilities of utilising these for making paints are also investigated.	1. Experiments on preparation of potassium permangnate on a semi-commercial scale. 2. Calcining and hydrating lime from the high grade limestone kankar of Voblapur area. 3. Survey of earth salt bearing localities in the Shimoga and Chitaldrug Districts.	All the officers of the department are busily engaged in the mineral survey, prospecting and mining works, the laboratory investigations could only be carried out when they are at Headquarters for short while, after the field season. As such it is not possible to undertake any new investigations this year, but those which have already been taken up will be continued.
10. Government Porcelain Factory.	Manufacture of suspension type of insulators. Laboratory scale experiments conducted up to Green Goods stage. Later on *Abandoned* for want of electric testing facilities.	1. Manufacture of chimical and aviation porcelain. 2. Manufacture of glazed wall tiles on a commercial scale. 3. Manufacture of electro porcelain at lower temperature.	1. Work on all the items taken up in the year 1939-40 to be continued. 2. Manufacture of spare plugs. 3. Manufacture of "Globar" heating elements.

Board of Industrial Planning and Co-ordination—*contd.*

Name of department or institution	industrial researches undertaken		New items of industrial researches contemplated for the year 1940-41
	Up to 1st July 1939	During the year 1939-40	
11. Government Silk Factory, Mysore.	Nil.	Nil.	Nil.
12. Government Electric Factory, Bangalore.	Nil	Nil	1. Investigation of the lactic fermentation of molasses for the production of calcium lactate/lactic acid and other salts and ethyl lactate. 2. Investigation of the utilisation of fusel oil obtained as a by-product in the distillery at Mandya. (*a*) For the production of amyl alcohol, of B. P. and analytical reagent quality. (*b*) The production of amyl nitrite of B. P. specification. (*c*) Amyl acetate from amyl alcohol and sodium acetate. 3. Investigations on the possibility of producing disinfectants for surgical use in tablet form—incorporating chlorinated xylenols and cresols. 4. Isolation of citral from lemon grass oil for production of ionone. 5. Investigations on the utilisation of cherry husk, a waste product from Coffee Curing Works as a source of caffeine instead of tea dust generally used. 6. Production of creosote of B. P. specifications by fractionation and purifications of wood tar obtained at Mysore Iron and Steel Works, Bhadravati. 7. Production of "coffee essence" or extract. 8. Production of vitamin A, as concentrated from liver. 9. Study of the utilisation of castor oil for the production of certain perfumery chemicals like heptyl alcohol oenanthic aldehyde, amyl cinnamon aldehyde, etc. 10. Production of anti-anæmic principles of liver in high concentrations suitable for intra-muscular administrations. 11. Production of ammonium carbonate from ammonia and sulphate of ammonia. 12. Study of citric acid, fermentation of sugar.

Shift the entire matter bracketed & insert against item 13. Govt. Industrial & Testing Laboratory (Vide Position marked 'A' on next page)

Nil

Board of Industrial Planning and Co-ordination—*contd.*

Name of department or institution	Industrial researches undertaken		New items of industrial researches contemplated for the year 1940-41
	Up to 1st July 1939	During the year 1939-40	
13. Government Industrial and Testing Laboratory, Bangalore.	1. Disinfectants and antiseptics. Experiments continued on a semi-commercial scale. 2. Preparation of anti-anæmic principle of ~~liver~~. Experiments—semi-commercial scale pilot plant installed. 3. Production of silver proteniates of the type of argyrol and protargol. Laby. scale experiments—work still continued. 4. Production of benzyl easters. 5. Manufacture of ferric chloride—Laby. scale experiments carried out to investigate the suitability of red haematite ore.	1. Extraction of caffeine from cherry husk. Laby. scale experiments to be conducted. 2. Production of liver extract for paranteral use. Laby. scale experiments along with clininal trials would be conducted. 3. Manufacture of calcium lactate and lactic acid from molasses. 4. Production of acetates of sodium and potassium. semi-commercial plant is expected to be set up shortly. 5. Production of calcium gluconate by moulds as also by electrolytic oxidation.	'A' Insert the matter bracketed in [on Page 5
14. Government Soap Factory, Bangalore.	1. Distillation of patchouli oil from Singapore and local patchouli leaves. 2. Recovery of crude glycerine 80 per cent from soap lye. 3. Preparation of chemically pure glycerine from the above crude glycerine on a Laby. scale. 4. Preparation of papain from raw papaya fruit. 5. Distillation of various essential oils from indigenous essential oil plants other than patchouli such as lemon-grass, vetiver, karibovu leaves (Murayya Koenigii) and Kothumbari leaves (Coriander Sativum).	1. Patchouli cuttings obtained from Singapore and geranium cuttings from Yercaud, Salem, were propagated in the factory nursery. 2. Citrol was prepared from lemon-grass oil in the laboratory with a view to convert it into ionone.	The factory is busily engaged in meeting the urgent demands. Owing to the shift work now introduced in the factory, both the chemists are fully occupied and cannot spare any time for research work. As such the factory, feels the necessity for the *appointment* of another chemist to attend to research work uninterruptedly.
~~14. Government Soap Factory, Bangalore—*concld.*~~			

Board of Industrial Planning and Co-ordination—*contd.*

Name of department or institution	industrial researches undertaken		New items of industrial researches contemplated for the year 1940-41
	Up to 1st July 1939	During the year 1939-40	
15. University:—Central College, Bangalore.	1. Specially equipped for research work in electro-chemistry, the chemistry of colloide and for the investigation of plant products. 2. Investigations of Indian plant products. 3. Physico chemical investigations on rice, special process for the thermal curring of paddy, work on the development of rancidity in rice bran and in unpolished rice, etc., (Expts. still continued.) 4. Work on Bordeaux mixture (ready for publication). 5. Study on physico-chemical properties of hums in soils and composts are also taken up. 6. Research work on industrial problems such as production of chromates and ferro-chrome of low carbon content from Mysore chromite, large scale oxidization of alcohol (could not *proceed for want of facilities*).	1. Determination of water in absolute alcohol (worked up and ready for use).	1. Wetting agents. 2. Desulphurization of coke. 3. Work on other Expts. already taken up to be continued.
16. College of Engineering, Bangalore.	1. Experiments on semi-steel (published) 2. Strength of different kinds of timber available in the State (published). 3. Experiments on water white Methanol from Mysore Iron and Steel Works, Bhadravati, with a view to find out its suitability as fuel in internal combustion engines in place of petrol. (Report sent to the Mysore Iron and Steel Works).	Nil	1. Experiments to be conducted on petrol alcohol mixtures with a view to find out the best per contage of mixture for motor cars (alcohol from Sugar Co., to be used). Research on lubricanting value of indigenous vegetable oils.
17. Sri Krishnarajendra Silver Jubilee Technological Institute, Bangalore.	Nil	1. Manufacture of a suitable and economic hand sizing appliance for the use of cottage weavers and small scale factory owners. Appliance is complete and is under trial.	1. Proposed to manufacture a suitable small size power driven sizing unit. Deferred by the Director of Industries and Commerce as the same could not be got done by local firms.

Name of department or institution	industrial researches undertaken		New items of industrial researches contemplated for 1940-41
	Up to 1st July 1939	During 1939-40	
18. Government Agricultural Laboratory, Bangalore.	Nil ...	Nil ...	Nil
19. Government Public Health Institute, Bangalore.	Nil ...	Nil ...	Nil
20. Mysore Government Forest Department. Forest Research Laboratory, Bangalore.	The Forest department had no exclusive independent research organisation of its own. But a few experiments of economic value such as sandal spike work, lac problems, field work of a research nature, etc., were however conducted.	1. Cinchona samples of bark from the existing stock from all over the State were analysed. Soils of different localities have been examined. To raise seedlings from Niduvatham (Madras) were unsuccessful. Further work is in progress. 2. Sylvicultural studies on the possibility of improving the yield of flowers in case of pyrethreum plants. If this is successful this should be an important industrial research so far as production of insecticides is concerned. 3. Utilization of jungle woods by adopting newer methods of construction, surfacing and finish. Experiments are in progress. 4. Battery separators made in wood. Work commenced and has found to be of extreme commercial importance. 5. Experimentation on the construction of bobbins, pirns, and shuttles from out of suitable species of wood indigenous to Mysore.	Not furnished, work to be continued on all the items.
21. Mysore Glass and Enamel Works, Bangalore.	Nil ...	Nil ...	Expts. in the manufacture of suitable glass bulbs, tubes, etc.
22. Mysore Sugar Company, Ltd., Bangalore.	Nil ...	Nil ...	Nil
23. Mysore Vegetable Oils Products, Ltd., Bangalore.	Nil ...	Nil ...	Nil
24. Mysore Chemicals and Fertilizers, Ltd., Belagola.	Nil ...	1. Manufacture of superphosphates and phosphoric acid. 2. Manufacture of mixed fertilizers. 3. Manufacture of Ammonium Salts, ammonium nitrate, ammonium chloride, ammonium carbonate, ammonium phosphate. Laby. scale expts. have been completed and manufacturing operations on a small scale have been started.	1. Manufacture of nitric and hydrochloric acids.

Board of Industrial Planning and Co-ordination.—*contd.*

Name of department or institution	industrial researches undertaken		New items of industrial researches contemplated for the year 1940-41
	Up to 1st July 1939	During 1939-40	
25. Mysore Chrome and Tanning Co., Ltd., Bangalore.	Nil ...	Nil ...	To examine the possibilities of manufacturing glue out of hides and fleshings, etc.
26. Mysore Stoneware, Potteries, Ltd., Bangalore.	Nil ...	Nil ...	Nil
27. Sri Krishnarajendra Mills, Ltd., Mysore.	Nil ...	Nil ...	Nil
28. Mysore Match Company, Ltd., Shimoga.	Nil ...	Nil ...	Nil
29. Mysore Paper Mills, Ltd., Bhadravati.	1. Analytical tests of bamboo and other materials such as china clay, limestone, etc. 2. Laby. and plant trials in the process of manufacture.	1. Use of areca husk for the manufacture of paper. Trials promising. 2. Manufacture of emergency newsprint from indigenous materials. Trials successful and supplies regularly made.	1. Investigations to substitute local clays in place of imported materials. 2. Tests on saline earths locally available. 3. Ghat species of palm—for pulp. Expts. promising. 4. Samples of grasses to test the suitability for pulp. 5. Manufacture of kraft pulp and paper from indigenous materials, and newsprints on a regular commercial scale from local raw materials is being actively considered.
30. Mysore Chemical Manufacturers Ltd., Bangalore.	Nil ...	Nil ...	Nil
31. Mysore Coffee Curing Works, Ltd., Chickmagalur.	Nil ...	Nil ...	Nil
32. Mysore Lamp Works, Ltd., Bangalore.	Nil ...	Nil ...	Nil
33. Mysore Silk Filature, Ltd., T.-Narsipur.	Nil ...	Nil ...	Nil
34. Mysore Spun Silk Mills Ltd., Channapatna.	Nil ...	Nil ...	Nil
35. Bangalore Chemical Manufacturers, Ltd., Malleswaram Bangalore.	Nil ...	Nil ...	Nil
36. Government Electric Laboratory, Bangalore.	Nil ...	Nil ...	Engaged in the work of testing and calibrating of measuring instruments, rewinding of motors and repairing other miscellaneous electric appliances.

Board of Industrial Planning and Coordination—*concld.*

Name of department or institution	industrial researches undertaken		New items of industrial researches contemplated for 1940-41
	Up to 1st July 1939	During 1939-40	
37. Mysore Tobacco Company, Ltd., Bangalore.	Nil	Nil ...	Nil
38. Messrs. Khody Ribbon, Carbon and Allied Industries, Race Course Road, Bangalore City.	1. Manufactures rubber stamp inks' thumb impression ink, ink powders, ink tablets, registration inks, cloth stamping inks, duplicater's ink, stencil inks, copying inks, Hetro-graph ink, Printing inks letho press inks, poster inks. 2. Typewriter ribbons in all colours ... 3. Carbon paper, stamping pads ...	1. Expts. to manufacture acetic acid from grey acetate of lime and industrial alcohol. 2. Expts. conducted for obtaining methyl violet, emerald green and other dystuffs by synthetic methods from benzine and aniline. 3. Experiments conducted on indegenons forest products for obtaining vegetable colours. 4. Tannic acid and diglycol laurate. 5. Construction of plant for the manufacture of acetic acid is under completion. 6. Carbon paper plant is also under completion. Varieties of paper will be introduced shortly.	Intensive research on vegetable forest product and also synthetic products to obtain highly tinctorial dystuffs.
39. Messrs. Khody Engineering Works Bangalore City.	*Textile Plants.*—Entire Silk throwing plant was designed and constructed. All the components have also been newly designed and casted in the Works. Doubling, reeling, winding and other textile machinery designed and constructed in the Works.	1. Plants for the manufacture of acetic acid and carbon paper is being constructed. 2. Looms for the manufacture of pure silk ribbons, art silk ribbons, cotton file binding tape were constructed, with definite improvement.	Intensive researches and efforts will be made to perfect every component of the Textile plants and to specialise the manufacture of textile machinery both for silk and cotton.

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GOVERNMENT OF MYSORE.

BOARD OF INDUSTRIAL PLANNING AND CO-ORDINATION.

A BRIEF SURVEY
OF
INDUSTRIAL RESEARCHES IN THE STATE.

(Bulletin No. 1 of 1941-42)

Returned with Corrections
Secretary,
Industrial Research Board,
BANGALORE.
7/9/41

BANGALORE:
PRINTED BY THE SUPNRINTENDENT AT THE GOVT. PRESS
1941.

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K. PARTHASARTHY,
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2. Government Bitumen Plants, Bangalore, Mysore, and Hassan.	Nil ...	Nil ...	Nil
3. Government Lac and Paint Works, Mysore.	Manufacture of oil paints utilising local raw materials such as ochres, etc.	1. Manufacture of oil paints of popular shades. 2. Manufacture of printing ink ... 3. Manufacture of special paints. Manufacture of paints—acid proof and alkali proof—etc. Regular manufacture has already commenced and supplies made to the market. Investigations on the manufacture of ink is on hand and will shortly be completed.	1. Manufacture of shellac-nitrocellulose lacquers. 2. Manufacture of shellac moulding powder. 3. Manufacture of pigments chromium oxide, and lead chromates in different shades from sodium dichromate that will be manufactured by Government Bichromate Factory. 4. Manufacture of aluminium paint and varnish.
4. Government Central Industrial Workshop, Bangalore.	1. Experiments with wooden oil mill for the extraction of oil. 2. Machine for threashing ragi ... 3. Well-pumps to be worked by manual labour. 4. Bullock carts with ball bearings, etc., to reduce the draught on the bullocks.	1. Experiments continued on items 3 and 4 mentioned in column II. Ragi threashing machine proved satisfactory. Oil mills—two of them are already working and it is reported that the oil produced is superior in quality. One hand deep well-pump has been fitted in Saklespur Taluk; report is awaited. Improved bullock carts are also successful.	1. Small machines suitable for button making to be organised on a cottage industry basis. 2. Machinery for trying abrasive wheels. 3. Lubricants with graphite as basis. Items 2 and 3 to be tried in collaboration with Mr. P. S. Narayana, Consulting Industrial Geologist, Bangalore. 4. The application of gas engine for road vehicles.
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Name of department or institution	Industrial researches undertaken		New items of industrial researches contemplated for the year 1940–41
	Up to 1st July 1939	During the year 1939–40	
9. Government Geological Department.	1. Ferro-Alloys:—Investigations dropped since Mysore Iron and Steel Works have taken up as they have better facilities. 2. Chemicals :— (a) *Sodium Bichromate.*—Scheme sanctioned by Government and a factory has been set up at Bolgola. (b) *Alum and aluminium sulphate.*—Further investigations dropped, since the Mysore Chemicals and Fertilisers, have this under their consideration. (c) *Potassium permanganate.*—The special Committee have resolved that the scheme might be referred to the Bichromate factory, to enable them to take up the work as an extension of their activity. (d) *Magenesium sulphate.*—No further work has been undertaken. (e) *Hydrated lime.*—Samples sent to Paper Mills, and Sugar Co., and it is reported that the samples are not good. (f) *Sodium chloride.*—Investigations continued. 3. *Abrasives.*—Further investigations have been entrusted to Mr. Narayana and a grant of Rs. 2,500 has recently been sanctioned by Government as recommended by the sub-committee. 4. *Cement asbestos.*—Investigations since discontiuued. 5. *Ochres.*—Investigations are continued and the possibilities of utilising these for making paints are also investigated.	1. Experiments on preparation of potassium permanganate on a semi-commercial scale. 2. Calcining and hydrating lime from the high grade limestone kankar of Voblapur area. 3. Survey of ~~earth salt~~ bearing localities in the Shimoga and Chitaldrug Districts.	All the officers of the department are busily engaged in the mineral survey, prospecting and mining works, the laboratory investigations could only be carried out when they are at Headquarters for short while, after the field season. As such it is not possible to undertake any new investigations this year, but those which have already been taken up will be continued.

Name of department or institution	Industrial researches undertaken		New items of industrial researches contemplated for the year 1940-41
	Up to 1st July 1939	During the year 1939-40	
10. Government Porcelain Factory.	Manufacture of suspension type of insulators. Laboratory scale experiments conducted up to Green Goods stage. Later on *Abandoned* for want of electric testing facilities.	1. Manufacture of chimical and aviation porcelain. 2. Manufacture of glazed wall tiles on a commercial scale. 3. Manufacture of electro porcelain at lower temperature.	1. Work on all the items taken up in the year 1939-40 to be continued. 2. Manufacture of spare plugs. 3. Manufacture of "Globar" heating elements.
11. Government Silk Factory, Mysore.	Nil.	Nil.	Nil.
12. Government Electric Factory, Bangalore.	Nil	Nil	1. Investigation of the lactic fermentation of molasses for the production of calcium lactate, lactic acid and other salts and ethyl lactate. 2. Investigation of the utilisation of fusel oil obtained as a by-product in the distillery at Mandya. (*a*) For the production of amyl alcohol, of B. P. and analytical reagent quality. (*b*) The production of amyl nitrite of B. P. specification. (*c*) Amyl acetate from amyl alcohol and sodium acetate. 3. Investigations on the possibility of producing disinfectants for surgical use in tablet form—incorporating chlorinated xylenols and cresols. 4. Isolation of citral from lemon grass oil for production of ionone. 5. Investigations of the utilisation of cherry husk, a waste product from Coffee Curing Works as a source of caffeine instead of tea dust generally used. 6. Production of creosote of B. P. specifications by fractionation and purifications of wood tar obtained at Mysore Iron and Steel Works, Bhadravati.

R / 13 to R

Adjust & insert 'Nil' against item 12 properly

The entire matter should be properly adjusted & inserted on Page 6 against item "13 - Govt. Testing Laboratory"

Name of department or institution	Industrial researches undertaken		New items of industrial researches contemplated for the year 1940-41
	Up to 1st July 1939	During the year 1939-40	
~~12. Government Electric Factory, Bangalore—*contd.*~~			X X X 7. Production of "coffee essence" or extract. 8. Production of vitamin A, as concentrated from liver. 9. Study of the utilisation of castor oil for the production of certain perfumery chemicals like heptyl alcohol oenanthic aldehyde, amyl cinnamon aldehyde, etc. 10. Production of anti-anæmic principles of liver in high concentrations suitable for intra-muscular administrations. 11. Production of ammonium carbonate from ammonia and sulphate of ammonia. 12. Study of citric acid, fermentation of sugar. ~~Not furnished. Promises to send it in due course.~~
13. Government Industrial and ~~Testing~~ Laboratory, Bangalore.	1. Disinfectants and antiseptics. Experiments continued on a semi-commercial scale, 2. Preparation of anti-anæmic principle of liver. Experiments—semi-commercial scale pilot plant installed. 3. Production of silver proteniates of the type of argyrol and protargol. Laby. scale experiments—work still continued. 4. Production of benzyl easters. 5. Manufacture of ferric chloride—Laby. scale experiments carried out to investigate the suitability of red haematite ore.	1. Extraction of caffeine from cherry husk. Laby. scale experiments to be conducted. 2. Production of liver extract for paranteral use. Laby. scale experiments along with clininical trials would be conducted. 3. Manufacture of calcium lactate and lactic acid from molasses. 4. Production of acetates of sodium and potassium. semi-commercial plant is expected to be set up shortly. 5. Production of calcium gluconate by moulds as also by electrolytic oxidation.	
14. Government Soap Factory, Bangalore.	1. Distillation of patchouli oil from Singapore and local patchouli leaves. 2. Recovery of crude glycerine 80 per cent from soap lye. 3. Preparation of chemically pure glycerine from the above crude glycerine on a Laby. scale. 4. Preparation of papain from raw papaya fruit.	1. Patchouli cuttings obtained from Singapore and geranium cuttings from Yercaud, Salem, were propagated in the factory nursery. 2. Citrol was prepared from lemon-grass oil in the laboratory with a view to convert it into ionone.	The factory is busily engaged in meeting the urgent demands. Owing to the shift work now introduced in the factory, both the chemists are fully occupied and cannot spare any time for research work. As such the factory, feels the necessity for the *appointment* of another chemist to attend to research work uninterruptedly.

Board of Industrial Planning and Co-ordination—*contd.*

Name of department or institution	Industrial researches undertaken		New items of industrial researches contemplated for the year 1940-41
	Up to 1st July 1939	During the year 1939-40	
14. Government Soap Factory, Bangalore—*contd.*	5. Distillation of various essential oils from indigenous essential oil plants other than patchouli such as lemon-grass, vetiver, karibevu leaves (Murayys Koenigii) and Kothumbari leaves (Coriander Sativum).		
15. University:—Central College, Bangalore.	1. Specially equipped for research work in electro-chemistry, the chemistry of colloids and for the investigation of plant products. 2. Investigations of Indian plant products. 3. Physico chemical investigations on rice, special process for the thermal curing of paddy, work on the development of rancidity in rice bran and in unpolished rice, etc., (Expts. still continued.) 4. Work on Bordeaux mixture (ready for publication). 5. Study on physico-chemical properties of humus in soils and composts are also taken up. 6. Research work on industrial problems such as production of chromates and ferro-chrome of low carbon content from Mysore chromite, large scale oxidization of alcohol (could not *proceed for want of facilities*).	1. Determination of water in absolute, alcohol (worked up and ready for use).	1. Wetting agents. 2. Desulphurization of coke. 3. Work on other Expts. already taken up to be continued.
16. College of Engineering, Bangaloro.	1. Experiments on semi-steel (published) 2. Strength of different kinds of timber available in the State (published). 3. Experiments on water white Methanol from Mysore Iron and Steel Works, Bhadravati, with a view to find out its suitability as fuel in internal combustion engines in place of petrol. (Report sent to the Mysore Iron and Steel Works).	Nil	1. Experiments to be conducted on petrol alcohol mixtures with a view to find out the best per centage of mixture for motor cars (alcohol from Sugar Co., to be used). Research on lubricanting value of indigenous vegetable oils.
17. Sri Krishnarajendra Silver Jubilee Technological Institute, Bangalore.	Nil	1. Manufacture of a suitable and economic hand sizing appliance for the use of cottage weavers and small scale factory owners. Appliance is complete and is under trial.	1. Proposed to manufacture a suitable small size power driven sizing unit. Deferred by the Director of Industries and Commerce as the same could not be got done by local firms.

Board of Industrial Planning and Coordination—*contd.*

Name of department or institution	Industrial researches undertaken		New items of industrial researches contemplated for 1940-41
	Up to 1st July 1939	During 1939-40	
18. Government Agricultural Laboratory, Bangalore.	Nil ...	Nil ...	Nil
19. Government Public Health Institute, Bangalore.	Nil ...	Nil ...	Nil
20. Mysore Government Forest Department. Forest Research Laboratory, Bangalore.	The Forest department had no exclusive independent research organisation of its own. But a few experiments of economic value such as sandal spike work, lac problems, field work of a research nature, etc., were however conducted.	1. Cinchona samples of bark from the existing stock from all over the State were analysed. Soils of different localities have been examined. To raise seedlings from Niduvatham (Madras) were unsuccessful. Further work is in progress. 2. Sylvicultural studies on the possibility of improving the yield of flowers in case of pyrethrum plants. If this is successful this should be an important industrial research so far as production of insecticides is concerned. 3. Utilization of jungle woods by adopting newer methods of construction, surfacing and finish. Experiments are in progress. 4. Battery separators made in wood. Work commenced and has found to be of extreme commercial importance. 5. Experimentation on the construction of bobbins, pirns, and shuttles from out of suitable species of wood indigenous to Mysore.	Not furnished, work to be continued on all the items.
21. Mysore Glass and Enamel Works, Bangalore.	Nil ...	Nil ...	Expts. in the manufacture of suitable glass bulbs, tubes, etc.
22. Mysore Sugar Company, Ltd., Bangalore.	Nil ...	Nil ...	Nil
23. Mysore Vegetable Oils Products, Ltd., Bangalore.	Nil ...	Nil ...	Nil
24. Mysore Chemicals and Fertilizers, Ltd., Belagola.	Nil ...	1. Manufacture of superphosphates and phosphoric acid. 2. Manufacture of mixed fertilizers. 3. Manufacture of Ammonium Salts, ammonium nitrate, ammonium chloride, ammonium carbonate, ammonium phosphate. Laby. scale expts. have been completed and manufacturing operations on a small scale have been started.	1. Manufacture of nitric and hydrochloric acids.

Board of Industrial Planning and Co-ordination.—*contd.*

Name of department or institution	Industrial researches undertaken		New items of Industrial researches contemplated for the year 1940-41
	Up to 1st July 1939	During 1939-40	
25. Mysore Chrome and Tanning Co., Ltd., Bangalore.	Nil ...	Nil ...	To examine the possibilities of manufacturing glue out of hides and fleshings, etc.
26. Mysore Stoneware, Potteries, Ltd., Bangalore.	Nil ...	Nil ...	Nil
27. Sri Krishnarajendra Mills, Ltd., Mysore.	Nil ...	Nil ...	Nil
28. Mysore Match Company, Ltd., Shimoga.	Nil ...	Nil ...	Nil
29. Mysore Paper Mills, Ltd., Bhadravati.	1. Analytical tests of bamboo and other materials such as china clay, limestone, etc. 2. Laby. and plant trials in the process of manufacture.	1. Use of areca husk for the manufacture of paper. Trials promising. 2. Manufacture of emergency newsprint from indigenous materials. Trials successful and supplies regularly made.	1. Investigations to substitute local clays in place of imported materials. 2. Tests on saline earths locally available. 3. Ghat species of palm—for pulp. Expts. promising. 4. Samples of grasses to test the suitability for pulp. 5. Manufacture of kraft pulp and paper from indigenous materials, and newsprints on a regular commercial scale from local raw materials is being actively considered.
30. Mysore Chemical Manufacturers Ltd., Bangalore.	Nil ...	Nil ...	Nil
31. Mysore Coffee Curing Works, Ltd., Chickmagalur.	Nil ...	Nil ...	Nil
32. Mysore Lamp Works, Ltd., Bangalore.	Nil ...	Nil ...	Nil
33. Mysore Silk Filature, Ltd., T.-Narsipur.	Nil ...	Nil ...	Nil
34. Mysore Spun Silk Mills Ltd., Channapatna.	Nil ...	Nil ...	Nil
35. Bangalore Chemical Manufacturers, Ltd., Malleswaram Bangalore.	Nil ...	Nil ...	Nil
36. Government Electric Laboratory, Bangalore.	Nil ...	Nil ...	Engaged in the work of testing and calibrating of measuring instruments, rewinding of motors and repairing other miscellaneous electric appliances.

Name of department or institution	Industrial researches undertaken		New items of industrial researches contemplated for 1940-41
	Up to 1st July 1939	During 1939-40	
37. Mysore Tobacco Company, Ltd., Bangalore.	Nil	Nil ...	Nil
38. M/s Khody Ribbon, Carbon and Allied Industries, Race Course Road, Bangalore City.	1. Manufactures rubber stamp inks, thumb impression ink, ink powders, ink tablets, registration inks, cloth stamping inks, duplicater's ink, stencil inks, copying inks, Hetro-graph ink, Printing inks letho press inks, poster inks. 2. Typewriter ribbons in all colours ... 3. Carbon ~~paper, stamping pads~~ ...	1. Expts. to manufacture acetic acid from grey acetate of lime and industrial alcohol. 2. Expts. conducted for obtaining methyl violet, emerald green and other dystuffs by synthetic methods from benzine and aniline. 3. Experiments conducted on indegenons forest products for obtaining vegetable colours. 4. Tannic acid and diglycol laurate. 5. Construction of plant for the manufacture of acetic acid is under completion. 6. Carbon paper plant is also under completion. Varieties of paper will be introduced shortly.	Intensive research on vegetable forest product and also synthetic products to obtain highly tinctorial dystuffs.
39. M/s Khody Engineering Works, Bangalore city.	*Textile Plants.*—Entire Silk throwing plant was designed and constructed. All the components have also been newly designed and casted in the Works. Doubling, reeling, winding and other textile machinery designed and constructed in the Works.	1. Plants for the manufacture of acetic acid and carbon paper is being constructed. 2. Looms for the manufacture of pure silk ribbons, art silk ribbons, cotton file binding tape were constructed, with definite improvement.	Intensive researches and efforts will be made to perfect every component of the Textile plants and to specialise the manufacture of textile machinery both for silk and cotton.

87/Cel-2

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MYSORE GOVERNMENT PRESS,

Dr.

Bangalore, 4th Sept. 1941.

The General Manager
Govt. Electric Factory
Mysore Road
Bangalore

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A brief Survey of Industrial Research etc., pp. 1—10+1

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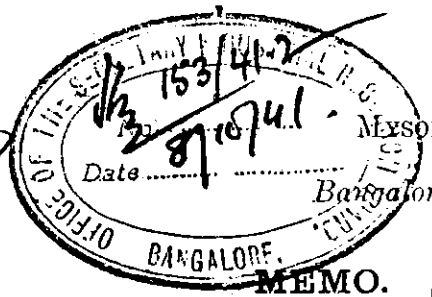
Asst. Superintendent, Govt. Press.



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and Dept 183

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To Asst. Superintendent, Govt. Press.

The General Manager,
Govt. Electric Factory,
Mysore Road,
Bangalore City.

Final Proof for Approval
1-11-41.

GOVERNMENT OF MYSORE.

BOARD OF INDUSTRIAL PLANNING AND CO-ORDINATION.

A BRIEF SURVEY
OF
INDUSTRIAL RESEARCHES IN THE STATE.

(Bulletin No. 1 of 1941-42)

No. 522/41-2
3
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for Secretary

BANGALORE:
PRINTED BY THE SUPNRINTENDENT AT THE GOVT. PRESS
1941.

BOARD OF INDUSTRIAL PLANNING AND CO-ORDINATION.

A brief survey of Industrial Researches carried out in the Mysore State.

(COMPILED AS PER REPLIES RECEIVED.)

The short account given here *re* industrial researches carried out in the State is neither exhaustive nor descriptive in details. This survey was undertaken to know the present position *re* industrial researches completed and in progress, so that work in this direction might be co-ordinated It. will be seen from the survey that barring a few institutions—mostly Government—no industrial researches are undertaken in any of the institutions in the State.

BANGALORE,
October 1941.

K. PARTHASARATHI,
Secretary.

Board of Industrial Planning and Co-ordination.

Consolidated list of industrial researches engaging the attention of the several Industrial Concerns, Laboratories, and other institutions—Government, Government-aided, and private in the State.

Name of department or institutions	Items of industrial researches undertaken		New items of industrial researches contemplated for 1940-41
	Up to 1st July 1939	During the year 1939-40	
1. Government Sandal wood Oil Factory, Mysore.	Nil ...	Nil ...	1. Manufacture of the following essential oils. (*a*) Oleum Anise B. P. (*b*) Oleum Menth Piperata B. P. (*c*) Oleum Juniperi B. P. (*d*) Clove oil.
2. Government Bitumen Plants Bangalore, Mysore, and Hassan.	Nil ...	Nil ...	Nil
3. Government Lac and Paint Works, Mysore.	Manufacture of oil paints utilising local raw materials such as ochres. etc.	1. Manufacture of oil paints of popular shades. 2. Manufacture of printing ink ... 3. Manufacture of special paints. Manufacture of paints—acid proof and alkali proof—etc. Regular manufacture has already commenced and supplies made to the market. Investigations on the manufacture of ink is on hand and will shortly be completed.	1. Manufacture of shellac-nitrocellulose lacquers. 2. Manufacture of shellac moulding powder. 3. Manufacture of pigments chromium oxide, and lead chromates in different shades from sodium dichromate that will be manufactured by Government Dichromate Factory. 4. Manufacture of aluminium paint and varnish.
4. Government Central Industrial Workshop, Bangalore.	1. Experiments with wooden oil mill for the extraction of oil. 2. Machine for threashing ragi ... 3. Well-pumps to be worked by manual labour. 4. Bullock carts with ball bearings, etc., to reduce the draught on the bullocks.	1. Experiments continued on items 3 and 4 mentioned in column II. Ragi threashing machine proved satisfactory. Oil mills—two of them are already working and it is reported that the oil produced is superior in quality. One hand deep well-pump has been fitted in Saklespur Taluk; report is awaited. Improved bullock carts are also successful.	1. Small machines suitable for button making to be organised on a cottage industry basis. 2. Machinery for trying abrasive wheels. 3. Lubricants with graphite as basis. Items 2 and 3 to be tried in collaboration with Mr. P. S. Narayana, Consulting Industrial Geologist, Bangalore. 4. The application of gas engine for road vehicles.
5. Sri Chamarajendra Technical Institute, Mysore.	Nil ...	Nil ...	Nil

Board of Industrial Planning and Co-ordination—*contd.*

Name of department or institution	industrial researches undertaken		New items of industrial researches contemplated for the year 1940–41
	Up to 1st July 1939	During the year 1939–40	
6. Department of Sericulture, Central Silk Farms at Mysore, Channapatna, Kolar, Sidlaghatta, Kunigal, and Mugur.	Experiments connected with mulberry cultivation, rearing of worms and grainage technique were conducted, in addition to several other experiments.	1. Research work on the refrigeration of multivoltine seed cocoons. 2. Research work on the refrigeration of hybrid layings. 3. Hibernation of imported univoltine and bivoltine silk worm eggs. 4. Refrigeration of seed cocoons and eggs from the same and a number of other experimental works started in the previous years were also continued.	All the experiments undertaken in the previous years will be continued to obtain definite results.
7. Government Implements Factory, Hassan.	Nil ...	Nil ...	Nil
8. Mysore Government Iron and Steel Works, Bhadravati.	1. Plastics :— (*a*) Phenol-formaldehyde resin. (*b*) Urea formaldehyde resin. (*c*) Cellulose acetate. (*d*) Vinyl resin. (*e*) Methyl metacrylate resin. (*f*) Marking nut oil resin. 2. Varnishes from wood distillation products. 3. Sponge iron 4. Manganese 5. Carbourundum 6. Electrodes 7. Grinding Wheels 8. Active Charcoal 9. Ferric Chloride 10. Lead Acetate	1. *Phenol-formaldehyde moulding powder.*—Pilot plant capacity ½ cwt. of powder for 8 hours has been errected. Trial operations successfully completed. Opinion from Electric factory awaited *re* sample powder sent for moulding. Phenol and cresols from Indian sources being examined. 2. *Manufacture of acetic acid.*—The manufacture of acetic acid from pyroligneous liquor *via* sodium acetate and sulphuric acid was examined and a scheme for a semi-commercial scale plant is now under consideration of the management. There is however, likely to be some delay in taking up this scheme as the military requirements of calcium acetate have to be met with. 3. *Protein plastics from groundnut oil cake.*— 4. *Carbon and natural graphite electrodes.*—Experiments in connection with graphitising of petroleum coke are progressing satisfactorily. Since the results are very encouraging, large scale trials will be attempted shortly.	1. Phenol-formaldehyde moulding powder. 2. Manufacture of acetic acid. 3. *Manufacture of formaldehyde.*—Second-hand plant of 5 tons capacity of formalin has been purchased and is now under erection. Manufacture of this chemical will soon be taken up. 4. Carbon and natural graphite electrodes. 5. *Special Steels.*—A good deal of investigations have been carried out, with encouraging results, to undertake further steps to meet the stringent demands for high class tools.

Name of department or institution	industrial researches undertaken		New items of industrial researches contemplated for the year 1940–41
	Up to 1st July 1939	During the year 1939–40	
9. Government Geological Department.	1. Ferro-Alloys :—Investigations dropped since Mysore Iron and Steel Works have taken up as they have better facilities. 2. Chemicals :— (*a*) *Sodium Bichromate.*—Scheme sanctioned by Government and a factory has been set up at Bolgola. (*b*) *Alum and aluminium sulphate.*—Further investigations dropped, since the Mysore Chemicals and Fertilisers, have this under their consideration. (*c*) *Potassium permangnate.*—The special Committee have resolved that the scheme might be referred to the Dichromate Factory, to enable them to take up the work as an extension of their activity. (*d*) *Magenesium sulphate.*—No further work has been undertaken. (*e*) *Hydrated lime.*—Samples sent to Paper Mills, and Sugar Co., and it is reported that the samples are not good. (*f*) *Sodium chloride.*—Investigations continued. 3. *Abrasives.*—Further investigations have been entrusted to Mr. Narayana and a grant of Rs. 2,500 has recently been sanctioned by Government as recommended by the sub-committee. 4. *Cement asbestos.*—Investigations since discontiuued. 5. *Ochres.*—Investigations are continued and the possibilities of utilising these for making paints are also investigated.	1. Experiments on preparation of potassium permangnate on a semi-commercial scale. 2. Calcining and hydrating lime from the high grade limestone kankar of Voblapur area. 3. Survey of earth salt bearing localities in the Shimoga and Chitaldrug Districts.	All the officers of the department are busily engaged in the mineral survey, prospecting and mining works, the laboratory investigations could only be carried out when they are at Headquarters for short while, after the field season. As such it is not possible to undertake any new investigations this year, but those which have already been taken up will be continued.
10. Government Porcelain Factory.	Manufacture of suspension type of insulators. Laboratory scale experiments conducted up to Green Goods stage. Later on *Abandoned* for want of electric testing facilities.	1. Manufacture of chimical and aviation porcelain. 2. Manufacture of glazed wall tiles on a commercial scale. 3. Manufacture of electro porcelain at lower temperature.	1. Work on all the items taken up in the year 1939–40 to be continued. 2. Manufacture of spare plugs. 3. Manufacture of "Globar" heating elements.

Board of Industrial Planning and Co-ordination—*contd.*

Name of department or institution	industrial researches undertaken		New items of industrial researches contemplated for the year 1940-41
	Up to 1st July 1939	During the year 1939-40	
11. Government Silk Factory, Mysore.	Nil.	Nil.	Nil.
12. Government Electric Factory, Bangalore.	Nil	Nil	Nil
13. Government Industrial and Testing Laboratory, Bangalore.	1. Disinfectants and antiseptics. Experiments continued on a semi-commercial scale, 2. Preparation of anti-anæmic principle of liver. Experiments—semi-commercial scale pilot plant installed. 3. Production of silver proteniates of the type of argyrol and protargol. Laby. scale experiments—work still continued. 4. Production of benzyl easters. 5. Manufacture of ferric chloride—Laby. scale experiments carried out to investigate the suitability of red haematite ore.	1. Extraction of caffeine from cherry husk. Laby. scale experiments to be conducted. 2. Production of liver extract for paranteral use. Laby. scale experiments along with clininal trials would be conducted. 3. Manufacture of calcium lactate and lactic acid from molasses. 4. Production of acetates of sodium and potassium semi-commercial plant is expected to be set up shortly. 5. Production of calcium gluconate by moulds as also by electrolytic oxidation.	1. Investigation of the lactic fermentation of molasses for the production of calcium lactate-lactic acid and other salts and ethyl lactate. 2. Investigation of the utilisation of fusel oil obtained as a by-product in the distillery at Mandya. (*a*) For the production of amyl alcohol, of B. P. and analytical reagent quality. (*b*) The production of amyl nitrite of B. P. specification. (*c*) Amyl acetate from amyl alcohol and sodium acetate. 3. Investigations on the possibility of producing disinfectants for surgical use in tablet form—incorporating chlorinated xylenols and cresols. 4. Isolation of citral from lemon grass oil for production of ionone. 5. Investigations on the utilisation of cherry husk, a waste product from Coffee Curing Works as a source of caffeine instead of tea dust generally used. 6. Production of creosote of B. P. specifications by fractionation and purifications of wood tar obtained at Mysore Iron and Steel Works, Bhadravati. 7. Production of "coffee essence" or extract. 8. Production of vitamin A, as concentrated from liver. 9. Study of the utilisation of castor oil for the production of certain perfumery chemicals like heptyl alcohol oenanthic aldehyde, amyl cinnamon aldehyde, etc. 10. Production of anti-anæmic principles of liver in high concentrations suitable for intra-muscular administrations. 11. Production of ammonium carbonate from ammonia and sulphate of ammonia. 12. Study of citric acid, fermentation of sugar.

Name of department or institution	Industrial researches undertaken		New items of industrial researches contemplated for the year 1940-41
	Up to 1st July 1939	During the year 1939-40	
14. Government Soap Factory, Bangalore.	1. Distillation of patchouli oil from Singapore and local patchouli leaves. 2. Recovery of crude glycerine 80 per cent from soap lye. 3. Preparation of chemically pure glycerine from the above crude glycerine on a Laby. scale. 4. Preparation of papain from raw papaya fruit. 5. Distillation of various essential oils from indigenous essential oil plants other than patchouli such as lemon-grass, vetiver, karibevu leaves (Murayys Koenigii) and Kothumbari leaves (Coriander Sativum).	1. Patchouli cuttings obtained from Singapore and geranium cuttings from Yercaud, Salem, were propagated in the factory nursery. 2. Citrol was prepared from lemon-grass oil in the laboratory with a view to convert it into ionone.	The factory is busily engaged in meeting the urgent demands. Owing to the shift work now introduced in the factory, both the chemists are fully occupied and cannot spare any time for research work. As such the factory, feels the necessity for the *appointment* of another chemist to attend to research work uninterruptedly.
15. University:—Central College, Bangalore.	1. Specially equipped for research work in electro-chemistry, the chemistry of colloids and for the investigation of plant products. 2. Investigations of Indian plant products. 3. Physico chemical investigations on rice, special process for the thermal curing of paddy, work on the development of rancidity in rice bran and in unpolished rice, etc., (Expts. still continued.) 4. Work on Bordeaux mixture (ready for publication). 5. Study on physico-chemical properties of humus in soils and composts are also taken up. 6. Research work on industrial problems such as production of chromates and ferro-chrome of low carbon content from Mysore chromite, large scale oxidization of alcohol (could not *proceed for want of facilities*).	1. Determination of water in absolute alcohol (worked up and ready for use).	1. Wetting agents. 2. Desulphurization of coke. 3. Work on other Expts. already taken up to be continued.

Board of Industrial Planning and Co-ordination—*contd.*

Name of department or institution	industrial researches undertaken		New items of industrial researches contemplated for the year 1940-41
	Up to 1st July 1939	During the year 1939-40	
16. College of Engineering, Bangalore.	1. Experiments on semi-steel (published) 2. Strength of different kinds of timber available in the State (published). 3. Experiments on water white Methanol from Mysore Iron and Steel Works, Bhadravati, with a view to find out its suitability as fuel in internal combustion engines in place of petrol. (Report sent to the Mysore Iron and Steel Works).	Nil	1. Experiments to be conducted on petrol alcohol mixtures with a view to find out the best per centage of mixture for motor cars (alcohol from Sugar Co., to be used). Research on lubricanting value of indigenous vegetable oils.
17. Sri Krishnarajendra Silver Jubilee Technological Institute, Bangalore.	Nil	1. Manufacture of a suitable and economic hand sizing appliance for the use of cottage weavers and small scale factory owners. Appliance is complete and is under trial.	1. Proposed to manufacture a suitable small size power driven sizing unit. Deferred by the Director of Industries and Commerce as the same could not be got done by local firms.
18. Government Agricultural Laboratory, Bangalore.	Nil ...	Nil ...	Nil
19. Government Public Health Institute, Bangalore.	Nil ...	Nil ...	Nil
20. Mysore Government Forest Department. Forest Research Laboratory, Bangalore.	The Forest department had no exclusive independent research organisation of its own. But a few experiments of economic value such as sandal spike work, lac problems, field work of a research nature, etc., were however conducted.	1. Cinchona samples of bark from the existing stock from all over the State were analysed. Soils of different localities have been examined. To raise seedlings from Niduvatham (Madras) were unsuccessful. Further work is in progress. 2. Sylvicultural studies on the possibility of improving the yield of flowers in case of pyrethreum plants. If this is successful this should be an important industrial research so far as production of insecticides is concerned. 3. Utilization of jungle woods by adopting newer methods of construction, surfacing and finish. Experiments are in progress. 4. Battery separators made in wood. Work commenced and has found to be of extreme commercial importance. 5. Experimentation on the construction of bobbins, pirns, and shuttles from out of suitable species of wood indigenous to Mysore.	Not furnished, work to be continued on all the items.

Board of Industrial Planning and Coordination—*contd.*

Name of department or institution	industrial researches undertaken		New items of industrial researches contemplated for 1940-41
	Up to 1st July 1939	During 1939-40	
21. Mysore Glass and Enamel Works, Bangalore.	Nil ...	Nil ...	Expts. in the manufacture of suitable glass bulbs, tubes, etc.
22. Mysore Sugar Company, Ltd., Bangalore.	Nil ...	Nil ...	Nil
23. Mysore Vegetable Oils Products, Ltd., Bangalore.	Nil ...	Nil ...	Nil
24. Mysore Chemicals and Fertilizers, Ltd., Belagola.	Nil ...	1. Manufacture of superphosphates and phosphoric acid. 2. Manufacture of mixed fertilizers. 3. Manufacture of Ammonium Salts, ammonium nitrate, ammonium chloride, ammonium carbonate, ammonium phosphate. Laby. scale expts. have been completed and manufacturing operations on a small scale have been started.	1. Manufacture of nitric and hydrochloric acids.
25. Mysore Chrome and Tanning Co., Ltd., Bangalore.	Nil ...	Nil ...	To examine the possibilities of manufacturing glue out of hides and fleshings, etc.
26. Mysore Stoneware, Potteries, Ltd., Bangalore.	Nil ...	Nil ...	Nil
27. Sri Krishnarajendra Mills, Ltd., Mysore.	Nil ...	Nil ...	Nil
28. Mysore Match Company, Ltd., Shimoga.	Nil ...	Nil ...	Nil
29. Mysore Paper Mills, Ltd., Bhadravati.	1. Analytical tests of bamboo and other materials such as china clay, limestone, etc. 2. Laby. and plant trials in the process of manufacture.	1. Use of areca husk for the manufacture of paper. Trials promising. 2. Manufacture of emergency newsprint from indigenous materials. Trials successful and supplies regularly made.	1. Investigations to substitute local clays in place of imported materials. 2. Tests on saline earths locally available. 3. Ghat species of palm—for pulp. Expts. promising. 4. Samples of grasses to test the suitability for pulp. 5. Manufacture of kraft pulp and paper from indigenous materials, and newsprints on a regular commercial scale from local raw materials is being actively considered.

Board of Industrial Planning and Co-ordination.—*contd.*

Name of department or institution	industrial researches undertaken		New items of industrial researches contemplated for the year 1940-41
	Up to 1st July 1939	During 1939-40	
30. Mysore Chemical Manufacturers Ltd., Bangalore.	Nil ...	Nil ...	Nil
31. Mysore Coffee Curing Works, Ltd., Chickmagalur.	Nil ...	Nil ...	Nil
32. Mysore Lamp Works, Ltd., Bangalore.	Nil ...	Nil ...	Nil
33. Mysore Silk Filature, Ltd., T.-Narsipur.	Nil ...	Nil ...	Nil
34. Mysore Spun Silk Mills Ltd., Channapatna.	Nil ...	Nil ...	Nil
35. Bangalore Chemical Manufacturers, Ltd., Malleswaram Bangalore.	Nil ...	Nil ...	Nil
36. Government Electric Laboratory, Bangalore.	Nil ...	Nil ...	Engaged in the work of testing and calibrating of measuring instruments, rewinding of motors and repairing other miscellaneous electric appliances.
37. Mysore Tobacco Company, Ltd., Bangalore.	Nil	Nil ...	Nil
38. Messrs. Khody Ribbon, Carbon and Allied Industries, Race Course Road, Bangalore City.	1. Manufactures rubber stamp inks' thumb impression ink, ink powders, ink tablets, registration inks, cloth stamping inks, duplicater's ink, stencil inks, copying inks, Hetro-graph ink, Printing inks letho press inks, poster inks. 2. Typewriter ribbons in all colours ... 3. Carbon paper, stamping pads ...	1. Expts. to manufacture acetic acid from grey acetate of lime and industrial alcohol. 2. Expts. conducted for obtaining methyl violet, emerald green and other dystuffs by synthetic methods from benzine and aniline. 3. Experiments conducted on indegenous forest products for obtaining vegetable colours. 4. Tannic acid and diglycol laurate. 5. Construction of plant for the manufacture of acetic acid is under completion. 6. Carbon paper plant is also under completion. Varieties of paper will be introduced shortly.	Intensive research on vegetable forest product and also synthetic products to obtain highly tinctorial dystuffs.

Board of Industrial Planning and Coordination—*concld.*

Name of department or institution	industrial researches undertaken		New items of industrial researches contemplated for 1940-41
	Up to 1st July 1939	During 1939-40	
39. Messrs. Khodv Engineering Works Bangalore City.	*Textile Plants.*—Entire Silk throwing plant was designed nd constructed. All the components have also boen newly designed and casted in the Works' Doubling, reeling winding and other textile machinery designed and constructed in the Works.	1. Plants for the manufacture of acetic acid and carbon paper is being constructed. 2. Looms for the manufacture of pure silk ribbons, art silk ribbons, cotton file binding tape were constructed, with definite improvement.	Intensive researches and efforts will be made to perfect every component of the Textile plants and to specialise the manufacture of textile machinery both for silk and cotton.

(Board of Industrial Planning and Coordination)

712-1

2 December 1

The

Mysore Chemicals & Fertilizers,Ltd.
Khody Ribbon and Allied Industries.

Dear

I send herein enclosed a printed copy of the Brief summary of Industrial researches in which it is for your information.

Kindly acknowledge receipt.

Yours faithfully,

Secretary

TELEGRAMS: 'PUBLIC' TELEPHONE: 2277

Office of the Publicity Officer to the Government of Mysore,
Public Offices,

No. 2558/Po

Dated, Bangalore, 4th December 1941.

From

C. NARASIMHA MOORTY, Esq., M.A.,
Publicity Officer to the Government of Mysore.

To

The Secretary,
Industrial Research Board,
BANGALORE.

Sir,

I have the honour to acknowledge, with thanks, the copy of the "Brief Survey of Industrial Researches in the State" forwarded under cover of your letter No.711/41-42 dated 2nd December 1941.

SECRETARY
BOARD OF INDUSTRIAL
PLANNING & COORDINATION.
DEC 5 1941
No 310/41-2

I have the honour to be
Sir,
Your most obedient servant,

Puolicity Officer to Government.

KHODAY RIBBON CARBON & ALLIED INDUSTRIES,

H. O:- 38, Santhusapet,

BANGALORE CITY.

The Secretary,
Industrial Research Board,
Bangalore.

4th December '41.

Dear Sir,

We beg to acknowledge with thanks the receipt of your letter No. 712 with enclosure a copy of "Brief Survey of Industrial Researches in the State" and request you to be so good as to kindly favour us with a couple of ~~xx~~ printed copies for our use. We are prepared to meet out the cost of the ~~them~~ same if desired.

Thanking you in the meantime,

Yours faithfully,
For Khoday Ribbon Carbon & Allied Dndustries,

Proprietor.

SECRETARY.
BOARD OF INDUSTRIAL
PLANNING & COORDINATION.
DEC 8 1941
No 316/41-2

UNIVERSITY OF MYSORE.

No. 1439

Encl. .....

COLLEGE OF ENGINEERING,
BANGALORE.

Dated the 5th December 1941.

From

E. K. RAMASWAMI, ESQ., B.Sc. (ENGNG., LONDON), A.C.G.I., M.I. MECH. E., M.A.S.M.E., M.I.E.,
PRINCIPAL, COLLEGE OF ENGINEERING,
BANGALORE.

To

The Secretary,
Industrial Research Board,
Bangalore.

Sir,

With reference to your letter No. 701-9 dated the 2nd instant, I have the honour to acknowledge receipt of a printed copy of the "Brief Survey of Industrial Researches in the State."

SECRETARY.
BOARD OF INDUSTRIAL
PLANNING & COORDINATION.
DEC 8 1941
No 318/41-2

I have the honour to be,
Sir,
Your most obedient servant,

Principal.

BBC.

(Board of Industrial Planning and Coordination)

225/41.2

5th December 1

27 copies.

xxxxxxxxxxxxxxxxxxxxxxxxxx

The

The Secretary,
Board of Industries & Commerce,
Bangalore.

I am directed to send herewith twenty seven printed copies of the "Brief Survey of Industrial Researches in the State" for distribution to the members of the Board of Industries and Commerce.

Kindly acknowledge receipt

I have the honor to be,
Sir
Your most obedient servant,

Secretary.

No. ~~D2-68-~~55/37
Encl.

MEMORANDUM

BANGALORE,

From

The Chief Conservator of Forests
in Mysore, Bangalore.

To

Dated 6 Decr. 1941.

The Secretary,
Industrial Research Board,
Bangalore.

Sir,

With reference to your letter No.701-9 dated the 2nd instant, I have the honour to acknowledge with thanks, the receipt of a printed copy of the "Brief Survey of Industrial Researches in the State".

SECRETARY.
BOARD OF INDUSTRIAL
PLANNING & COORDINATION.
DEC 9 1941
No. 320/41. 2

9/12

I have the honour to be,
Sir,
Your most obedient servant,

B P Ramachandra

Chief Conservator of Forests.

WD 6737—GBPM—80,000—9-5-41.

194 .

From

The Offg. Director,
Mysore Geological Department,
Bangalore.

To

The Secretary,
Industrial Research Board,
Bangalore.

Dated 3rd December 1941.

Despatched

Received

General No.

No. 9.1581.

Enclosure No.

SECRETARY.
BOARD OF INDUSTRIAL
PLANNING & COORDINATION.
DEC 8 1941
No. 217/III. 2

Sir,

I have the honour to acknowledge the receipt of a copy of "Brief Survey of Industrial Researches in the State" forwarded with your letter No.701-9 dated 2nd December 1941.

I have the honour to be,
Sir
Your most obedient servant,

Offg. Director,
Mysore Geological Department.

Ar.3/12.

TELEPHONE NO. 243. TEL. ADD. "CHEMI" MYSORE.

THE MYSORE CHEMICALS & FERTILISERS, LTD., MYSORE.

1128, Vani Vilas Road,

CODES
A. B. C. 6TH EDN. & BENTLEYS (2ND PHRASE.)

Mysore, 6th Decr. 1941

8310

The Secretary,
Industrial Research Board,
Bangalore.

Dear Sir,

We write to acknowledge with thanks the receipt of your letter No. 712/1 of the 2nd instant together with the report of the Industrial researches in the State.

Yours faithfully,
For The Mysore Chemicals & Fertilisers,Ld.,

For Secretary.

bvr)

SECRETARY.
BOARD OF INDUSTRIAL PLANNING & COORDINATION.
DEC 8 1941
No. 315/41. 2

35/cc2 Cne // December 1

Dear Sir,

I am desired to send herein enclosed a printed copy of the bulletin "Brief Survey of Industrial Researches in the State" -- issued under the auspices of the Board, for favour of perusal of Dewan.

Yours sincerely.

E. da Costa, Esq., [illegible] (Oxon),
Private Secretary to
the Dewan,
Bangalore.

B. I. C. 2]

No. 2411/41-42

Encl.

BOARD OF INDUSTRIES & COMMERCE.

Bangalore, dated 9th December *1941*.

From N.V.Siddalingappa,Esquire, M.Sc.,
xxxx

GOVERNMENT OF MYSORE.

Labour Department.

No. I.P. 31/41-42

ENCLS.

OFFICE OF THE COMMISSIONER OF LABOUR IN MYSORE,
MYSORE CHAMBER OF COMMERCE BUILDING,
KEMPE GOWDA ROAD,

Dated Bangalore, the ...9th..December.....1941.

FROM

THE COMMISSIONER OF LABOUR IN MYSORE&
The Director of Industrial Planning.

To

The Secretary,
Industrial Research Board,
Government Electric Factory,
Bangalore.

Sir,

I have the honour to acknowledge receipt of two printed Copies of "Brief Survey of Industrial Research in the State" sent with your letter No. 701-9 dated 2/12/41.

December 1941.

SECRETARY.
BOARD OF INDUSTRIAL
PLANNING & COORDINATION.
DEC 12 1941
No. 335/41-2

I have the honour to be,
Sir,
Your most obedient Servant,

For Commissioner & Director.

SRS:P:2)9-12.

Mr. E. da Costa, M.A. (Oxon.),
Private Secretary.

PRIVATE SECRETARY TO THE DEWAN MYSORE

903

Bangalore,

13th December 1941.

Dear Mr Parthasarathi,

I have received a copy of "A Brief Survey of Industrial Researches in the State", sent with your letter No. 757 of the 11th December 1941. It has been placed before the Dewan.

Yours sincerely,

Edaboza
13/12/41

OFFICE OF THE COMMISSIONER OF LABOUR
No.....
Date.....

SECRETARY.
BOARD OF INDUSTRIAL PLANNING & COORDINATION.
DEC 22 1941
No. 358/41-2

The Secretary,
Board of Industrial Planning and Co-ordination,
BANGALORE.

DUPLICATE.

MYSORE GOVERNMENT CENTRAL PRESS, BANGALORE.

To

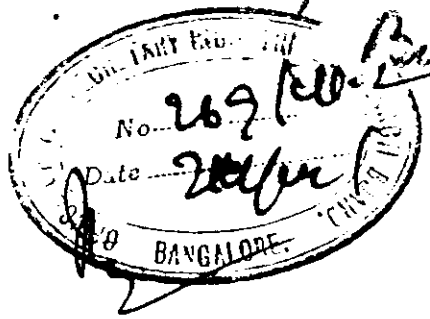
The

.....

Invoice **No** 1950

Date .....

W. D.	Description	No. of copies, etc.	No. of packets
	Mysore Survey of Industrial Researches Bulletin No 1	150	



Despatcher.

E.R. Narasimhan

For *Superintendent.*

M D 01160—GPB—25 books of 200 pages each—24-4-39

(Board of Industrial Planning and Coordination)

711/W-2 2nd December 1

One

xxxxxxxxxxxxxxxxxxxxxxxxx

The

The Publicity Officer to Government,
Bangalore.

I am directed to forward herewith a copy of the "Brief Survey of Industrial Researches in the State".

I have the honor to be
Sir,
Your most obedient servant,

Secretary.

(Board of Industrial Planning and Coordination)

710/44.2 two

2nd December 1

xxxxxxxxxxxxxxxxxxxxxxxxxxx

The

The Secretary to the Government of Mysore,
Development Department, Bangalore.

I am directed to forward herewith, for the information of Government, two printed copies of the "Brief Survey of Industrial Researches in the State" published under the auspices of the Board.

I have the honor to be,
Sir,
Your most obedient servant,

Secretary.

701-9
2

All the Five members of the Board. 2 Cys each.

The Dir. of Geology.
The C.C. of Forests.
The Principal, Engineering College } as Cys
and Engineering College

Secy

792

24th December 1

To

Messrs.Khoday Ribbon Carbon & Allied Industries,
38, Santhusapet, Bangalore City.

Dear Sir,

Refce: Your letter dated 4th Decr.1941

Referring to the above, I write to inform you that only a very limited number of copies of the "Brief Survey of Industrial Researches in Mysore" were got printed and I have no spare copies to comply with your request.

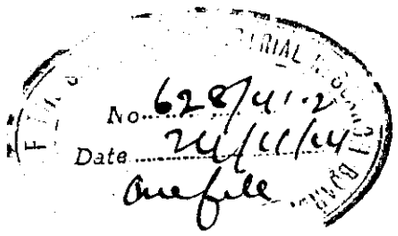
I am glad to note that the Survey has interested you.

Yours faithfully,

Secretary.

HSR)

(Board of Industrial Planning & Coordination)



Compilation of information on re: Industrial Resources.

-8-

Dated, 22nd November 1941.

Printed copies of the "Brief Survey of Industrial Resources in the State have been received from the Press. A copy is here it submitted for favour of perusal

If approved, copies will be distributed as follows:-

1) All the Five members of the Board — 2 copies each
2) The Director of Geology.
3) The C.C. of Forests.
4) Central College.
5) Engineering College.
6) Mysore Chemicals & Fertilisers, Ltd.
7) Messrs Khody Ribbon & Allied Industries.

It is a point for orders if a copy of the bulletin may be submitted to the Dewan for kind perusal. Copies will be sent to the Publicity Officer ~~of Government~~ and to Government.

22/11

Chairman)

Consolidated List of Industrial Researches engaging the atten
Institutions - Government, Government-Al

Name of Department or Institutions.	Items of Industrial Researches undertaken.	
	up to 1st July 1939.	During the
1) Government Sandal Oil Factory, Mysore.	nil	n
2) Government Bitumen Plants Bangalore, Mysore, and Hassan.	nil	n
3) Government Lac and Paint Works, Mysore.	Manufacture of Oil Paints utilising local raw materials such as ochres etc.	1) Manufac popular 2) Manufa 3) Manufac Manufa ctur and alkali manufactur supplies m Investigat Ink is on completed.
Government Central Industrial Workshop, Bangalore.	1) Experiments with wooden oil mill for the extraction of oil. 2) Machine for threshing Ragi. 3) Well-Pumps to be worked by manual labour. 4) Bullock Carts with ball bearings etc., to reduce the draught on the bullocks.	1) Experime 3 & 4 m Ragi thr satisfac Oil Mill working the oil quality. One hand fitted i report i Improved necessar
5) Sri Chamarajendra Technical Institute, Mysore.	nil	
Department of Sericulture - Central Silk Farms at Mysore, Channapatna, Kolar, Sidlaghatta, Kunigal, and Nagar.	Experiments connected with mulberry cultivation, rearing of worms and grainage technique were conducted, in addition to several other experiments done as noted in the list furnished by him (a lengthy list).	1) Researc of multi 2) Researc of hybri 3) Hiberna and Bivo 4) Negligi from th experim years ag
7) Government Implements Factory, Hassan.	nil	

ion of the several Industrial Concerns, Laboratories, and other
d, and Private - in the State.

year 1939-40.	New Items of Industrial Researches contemplated for 1940-41.
	1) Manufacture of the following essential Oils. a) Oleum Anise B.P. b) Oleum Menth Piperata B.P. c) Oleum Juniperi B.P. d) Clove Oil.
nil.	nil.
ire of oil paints of ghades. ire of Printing ink. ire of Special Paints. of Paints - acid proof proof - etc. Regular has already commenced and le to the market. ons on the manufacture of and and will shortly be	1) Manufacture of Shellac-nitrocellulose lacquers. 2) Manufacture of Shellac moulding powder 3) Manufacture of pigments chromium oxide, and lead chromates in different shades from Sodium dichromate that will be manufactured by Government Bichromate Factory. 4) Manufacture of Aluminium paint and varnish
ld continued on items tioned in column II	1) Small machines suitable for button making to be organised on a cottage industry basis 2) Machinery for trying abrasive wheels. 3) Lubric ote oil (free) ite or basis. Items 2 & 3 to be tried in collaboration with Dr. . . . Rayana, Consulting Industrial Geologist, Bangalore 4) The application of tin to the for Road vehicles.
ling machine proved ry. - two of them are already d it is reported that oduced is superior in	
lwp well-pump has been Tekelee or taluk - nstituted. ullock carts are also	
nil	nil.
work on the refrigeration ltine seed cocoons. work on the refrigeration laying. on of imported univoltine ian silk worm eggs. tion of seed cocoons and on a e and a number of other al work started in the previous ulso continued.	All the experiments undertaken in the previous years will be continued to obtain definite results.
nil	nil.

Name of department or institution.	Industrial Researches undertaken. up to 1st July 1939.
18) Government Agricultural Laboratory, Bangalore.	nil
19) Government Public Health Institute, Bangalore.	nil
20) Mysore Government Forest Department. Forest Research Laboratory, Bangalore.	The Forest department had no exclusive independent research organisation of its own. But a few experiments of economic value such as sandal spike work, the problems field work of a research nature etc. were however conducted.
21) Mysore Glass and Enamel Works, Bangalore.	nil
22) Mysore Sugar Company, Ltd., Bangalore.	nil
23) Mysore Vegetable Oils Products, Ltd., Bangalore.	nil
24) Mysore Chemicals and Fertilizers Ltd., Belgola.	nil
25) Mysore Chrome and Tanning Co, Ltd., Bangalore.	nil
26) Mysore Stoneware, Potteries, Ltd., Bangalore.	nil
27) Krishnarajendra Mills Ltd., Mysore.	nil
28) Mysore Match Company, Ltd., Shimoga.	nil
29) Mysore Paper Mills, Ltd, Bhadravati.	1) Analytical tests of bamboo and other materials such as China clay bauxite, etc. 2) Lab and plant trials in the processes of manufacture.

ing 1939-40.	ew items of Industrial Rese rches contemplated for 1940-41.
nil	nil
nil	nil
1) Cinchonat Samples of bark from the existing stock from all over the State were analysed. Soils of different localities have been examined. To raise seedlings from cultivated plants were unsuccessful. Further work is in progress. 2) Silvicultural studies on the possibility of improving the yield of flowers in case of pyrethrum plants. If this is successful this should be an important industrial research so far as production of insecticides is concerned. 3) Utilisation of jungle woods by adopting newer methods of construction, surfacing and finish experiments are in progress 4) Battery separators made in wood. ork commenced and has found to be of extreme commercial importance ~~in the manufacture of~~ ~~acid~~ storage batteries, ~~for~~ ~~the~~ ~~manufacture~~ ~~of~~ ~~which~~ ~~there~~ ~~is~~ ~~a~~ ~~good~~ ~~demand~~ ~~in~~ ~~the~~ ~~country~~.	Not furnished. work to be mainly continued on all the items.
nil	~~Work~~ to be done in the manufacture of suitable glass bulbs, tubes etc.
nil	nil
nil	nil
~~...~~ ture of Superphosphates & Rhenania	
...ture of Mixed Fertilizers.	
...ture of Ammonium Salts, Ammonium Ammonium Chloride, Ammonium Carbonate Phosphate. Lab. scale expts. have ...ished and manufacturing operations ... scale have been started.	1) Manufacture of Nitric and Hydrochloric acids.
nil	To examine the possibilities of manufacturing glue out of hides and fleshings etc.
nil	nil
nil nil	nil nil
...e of green husk for the manufacture of ... Trials promising. ...nufacture of Emergency Newsprint from ...ious materials. Trials successful ...ulties regularly made.	1) Investigations to substitute local clays in place of imported materials. 2) Tests on saline earths locally available 3) What species of palm - for pulp. expts. are promising. 4) Samples of Grasses to test the suitability for pulp. 5) Manufacture of kraft pulp and paper from indigenous materials, and news prints on a regular commercial scale from local raw materials is being actively considered.

Name of Department or Institution.	Industrial Researches undertaken up to 1st July 1950	dur
30) Mysore Chemical Manufacturers Ltd., Bangalore.	nil	
31) Mysore Coffee Curing Works, Ltd., Chickmangalur.	nil	
32) Mysore Lamp Works, Ltd., Bangalore.	nil	
33) Mysore Silk Filatures, Ltd., T. Narasipur.	nil	
34) Mysore Spun Silk Mills, Ltd., Channapatna.	nil	
35) Bangalore Chemical Manufacturers, Ltd., Malleswaram, Bangalore.	nil	
36) Government Electric Laboratory, Bangalore.	nil	
37) Mysore Tobacco Company, Ltd., Bangalore.	nil	

1939-40.	New items of Industrial Researches contemplated for the year 1940-41.
11	nil
11	nil
11	nil
11	nil
11	nil
11	nil
11	engaged in the work of testing and calibrating of measuring instruments, rewinding of motors and repairing other miscellaneous electric appliances.
11	nil

Secretary,
Industrial Research Board,
Bangalore.

Department / Institution.	Industrial Researches undertaken up to 1st July 1939.	
11) Government Electric Factory, Bangalore.	nil	
12) Government Industrial & Testing Laboratory, Bangalore.	1) Disinfectants and Antiseptics. Experiments continued on a semi-commercial scale. 2) Preparation of Anti-Anaemic principle of liver. Experiments - semi-commercial scale pilot plant installed. 3) Production silver-proteinates of the type of Argyrol and protargol. Laby. scale experiments - work still continued. 4) Production of Benzyl Esters. 5) Manufacture of Ferric Chloride - Laby. scale experiments carried out to investigate the suitability of Red Haematite ore.	1) Ext Laby 2) re vee. trial 3) Man fro 4) Pro semi- 5) Pro by el
14) Government Soap Factory, Bangalore.	1) Distillation of patchouli oil from Singapore and local patchouli leaves. 2) Recovery of crude Glycerine 60 percent from soap lye. 3) Preparation of chemically pure Glycerine from the above crude Glycerine on a laby. scale. 4) Preparation of papain from raw papaya fruit. 5) Distillation of various essential oils from indigenous essential oils plants other than patchouli such as Lemon-grass, vetivert, Karibevu leaves (Karvayya Kannada) and Kothumbari leaves (Coriander sativum)	1) Ma Ga pr 2)
15) UNIVERSITY: Central College, Bangalore.	1) Specially equipped for research work in electro-chemistry, the chemistry of colloids and for the investigation of plant products. 2) Investigations of Indian plant products. 3) Physico chemical investigations on rice, special process for the thermal curing of paddy, work on the development of rancidity in rice bran and in unpolished rice etc (Expts. still continued) 4) Work on Bordeaux mixture (ready for publication) 5) Study on physico-chemical properties of fruits in soils and composts are also taken up. 6) Research work on Industrial problems such as production of chromates and ferro-chrome of low carbon content from Mysore chromite, large scale oxidation of alcohol (could not proceed for want of facilities)	
16) College of Engineering Bangalore.	1) Experiments on semi-steel (published) 2) Strength of different kinds of timber available State (Published) 3) Experiments on ester white Methanol from Mysore steel works, Bhadravati with a view to find out its fuel in internal combustion engines in place o (report sent to the Mysore Iron and Steel Works)	
17) Sri Krishnarajendra Silver Jubilee Technological Institute Bangalore.	nil	1) Manufa hand sizing weavers and is complete

Name of Department Institution.	Industrial Researches undertaken up to 1st July 1939.	du
1) Government Electric Factory, Bangalore.	nil	
12) Government Industrial & Testing Laboratory, Bangalore.	1) Disinfectants and Antiseptics. Experiments continued on a semi-commercial scale. 2) Preparation of Anti-Anaemic principle of liver. Experiment - semi-commercial scale pilot plant installed. 3) Production silver-protenlates of the type of Argyrol and protargol. Laby. scale experiments - work still continued. 4) Production of Benzyl Esters. 5) Manufacture of Ferric Chloride - Laby. scale experiments carried out to investigate the suitability of Red Haematite ore.	1) Exp Laby. 2) Prod use. Serial 3) Manu from 4) Pro semi- 5) Pro by el
14) Government Soap Factory, Bangalore.	1) Distillation of patchouli oil from Singapore and local patchouli leaves. 2) Recovery of crude Glycerine 80 percent from soap lye. 3) Preparation of chemically pure glycerine from the above crude glycerine on a laby. scale. 4) Preparation of papain from raw papaya fruit. 5) Distillation of various essential oils from indigenous essential oils plants other than patchouli such as Lemon-grass, vetivert, karibevu leaves (Murayya Koenigii) and Kothumbari leaves (Coriander sativum)	1) Ge pr 2) ex
(5) UNIVERSITY: Central College, Bangalore.	1) Specially equipped for research work in electro-chemistry, the chemistry of colloids and for the investigation of plant products. 2) Investigations of Indian plant products. 3) Physico chemical investigations on rice, special process for the thermal curing of paddy, work on the development of rancidity in rice bran and in unpolished rice also (Expts. still continued) 4) Work on Bordeaux mixture (ready for publication) 5) Study on physico-chemical properties of gums in soils and composts are also taken up. 6) Research work on industrial problems such as production of chromates and ferro-chrome of low carbon content from Mysore Chromite, large scale oxidation of alcohol (could not proceed for want of facilities)	
16) College of Engineering Bangalore.	1) Experiments on semi-steel (published) 2) Strength of different kinds of timber available State (Published) 3) Experiments on ester white methanol from Mysore Steel Works, Bhadravati with a view to find out its as fuel in internal combustion engines in place o (report sent to the Mysore Iron and Steel Works)	
17) Sri Krishnarajendra Silver Jubilee Technological Institute Bangalore.	nil	1) Manufa hand closing weavers and in complete

...ne items of industrial research contemplated for the year 1940-41.

1	nil	X See attached Sheet + Print
on of caffeine from cherry huck.		
experiments to be conducted.		
on of liver extract for parenteral ...scale experimentation with clinical ...l be conducted.		
ure of Calcium Lactate and Lactic acid ...ses.		
...n of Acetates of Calcium and ...otassium.		not furnished. Promised to send it in due course.
...rial plant is expected to be set up shortly.		
...on of Calcium Gluconate by moulds as also ...lytic dehydrogenase oxidation.		
...mould cultures obtained from Singapore and ...m cultures from Kerosene, Salem, were ...ted in the factory nursery.		The factory is busily engaged in meeting the urgent demands. Owing to the shift work now introduced in the factory, both the chemists are fully occupied and cannot spare any time for research work as such the factory, feels the necessity for the appointment of another chemist to attend to research work uninterruptedly.
...ol was prepared from Lemon-grass oil in the ...tory with a view to convert it into lemone.		
...termination of water in Absol to ...hol (worked up and ready for use)		1) Wetting Agents 2) Desulphurisation of Coke. 3) Work on other topics already taken up to be continued

...s	Nil	
... and ...bility ...r l.		
... of a suitable and economic ...lance for the use of cottage ...l scale factory owners. ...liance ...is under trial.		1) Trace Metals to be conducted on petrol-alcohol mixtures with a view to find out the best per...tage of mixture for motor cars (alcohol from Sugar Co. to be used.) 2) Research on Lubricants ...ing value of Indian crude vegetable oils.
		1) Prepared to manufacture a suitable small size power driven oiling unit, deferred by the Director of I & C as the same could not be at done by local firms.

Name of Department or Institution.	Industrial Researches undertaken up to 1st July 1939.	Curin
8) Mysore Government Iron and Steel Works, Bhadravati.	1) Plastics: a) Phenol-formaldehyde resin b) Urea formaldehyde resin. c) Cellulose acetate. d) Vinyl resin. e) Methyl Methacrylate resin f) Barking Nut Oil resin. 2) Varnishes from wood distillation products. 3) Sponge Iron. 4) Ferro-alloys. 5) Carborundum. 6) Electrodes. 7) Grinding Wheels 8) Active Charcoal. 9) Ferric Chloride. 10) Lead Acetate.	1) Phenol-for... capacity ... erected. Fu... ed. Opinion ... sample powd... cresols from... 2) Manufactu... of acetic ac... sodium aceta... and a scheme ... is now under ... There is hope ... up this schem... Calcium acet... 3) Protein p... 4) Carbon and... Experiments ... petroleum co... since the re... scale trials ...
9) Government Geological Department.	1) Ferro-Alloys: Investigations dropped since Mysore Iron and Steel Works have taken up as they have better facilities. 2) Chemicals: a) Sodium Bichromate: Scheme sanctioned by Government and a factory has been set up at Belagola. b) Alum & Aluminium Silicate: Further investigations dropped, since the Mysore Chemicals and Fertilizers, have this under their consideration. c) Potassium Permanganate. The special Committee have resolved that the scheme might be referred to the Bichromate Factory, to enable them to take up the work as an extension of their activity. d) Magnesium Sulphate: No further has been undertaken. e) Hydrated Lime: Samples sent to Paper Mills, and Sugar Co, and it is reported that the samples are not good. f) Sodium Chloride. Investigations continued. 3) Abrasives: Further investigations have been entrusted to Mr. Narayana and a grant of Rs 2,500/- has recently been recently sanctioned by Government as recommended by the Sub-Committee. 4) Manganese Garnet Abrasive: Investigations since discontinued. 5) Cobrex: Investigations are continued and the possibilities of utilising these for making paints are also investigated.	1) Experiment... permanga... 2) calcining ... grade lim... 3) Survey of ... the Shim...
10) Government Porcelain Factory, Bangalore.	Manufacture of suspension type of Insulators. Laboratory scale experiments conducted up to Green Goods stage. Later on Abandoned for want Electric testing facilities.	1) Manufa... porcel... 2) Manufa... Condens... 3) Manufa... Lower ...
11) Government Silk Factory, Mysore.	nil	

...r ye...r 1939-40.

moulding
...ehyde/powder. Pilot plant
...of powder for 8 hours has been
...operations successfully complet-
...electric factory awaited rel
...ment for moulding. Phenol and
...ylen ware sources being examined.
...f Acetic Acid. The manufacture
...from pyrolignecus liquor via
...and ammonia acid was examined

...for a semi-commercial scale plant
...sideration of the management.
...ver likely to be some delay in taking
...as the military requirements of
...have to be met with.

...ulsion from groundnut oil cake.

...natural graphite electrodes:
...connection with graphitising of
...ite are progressing satisfactorily.
...lts are very encouraging. Large
...will be attempted shortly.

...on preparation of Potassium
...on a semi-commercial scale.
...hydrating lime from the High
...the kankar of Pusalpur area.
...with salt bearing localities in
...and Chitaldrug Districts.

...re of Chemical and aviation
...re of glazed wall tiles on a
...l scale.
...re of electro porcelain at
...perature.

New items of Industrial Researches contemplated for the year 1940-41.

1) Phenol-formaldehyde moulding powder.
2) Manufacture of Acetic Acid.
3) Manufacture of Formaldehyde: Second hand plant of 5 tons per capacity of formalin has been purchased and is now under erection. Manufacture of this chemical will soon to be taken up.
4) Carbon and Natural Graphite Electrodes.
5) Special Steels: A good deal of investigations have been carried out, with encouraging results, to undertake a undertake further steps to meet the stringent demands for high class tools.

All the officers of the department are busily engaged in the mineral survey, prospecting and mining works the laboratory investigations could only be carried out when they are at headquarters for short while, after the field season. As such it is not possible to undertake any new investigations this year, but those which have already been taken up will be continued

work on all the items taken up in the year 39-40 to be continued.
6) Manufacture of Spare plugs.
7) Manufacture of "Globar" Heating elements.

New items of Industrial Researches contemplated for 1940-41.

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1. Investigation of the Lactic fermentation of molasses for the production of Calcium Lactatate, lactic acid and other salts and Ethyl lactate.

2. Investigation of the utilisation of Fusel oil obtained as a by-product in the distillery at Mandya.

3. (a) For the production of amyl alcohol, of B.P. and analytical reagent quality.
   (b) The production of amyl nitrite of B.P. specification
   (c) Amyl acetate from amyl alcohol and sodium acetate.

3. Investigations on the possibility of producing disinfectant for surgical use in tablet form - incorporating chlorinated xylenols and cresols.

4. Isolation of citral from Lemon grass oil for production of Ionone.

5. Investigations of the utilisation of Cherry husk a waste product from Coffee Curing Works as a source of Caffeine instead of tea dust generally used.

6. Production of Creosote of B.P. specifications by fractionation and purifications of Wood Tar obtained at Mysore Iron and Steel Works, Bhadravati.

7. Production of "Coffee Essence" or extract.
8. Production of Vitamin A an concentrated from liver.
9. Study of the utilisation of Castor oil for the production of certain perfumery chemicals like heptyl alcohol oenanthic aldehyde, amyl cinnamon aldehyde etc.
10. Production of anti-anaemic principles of liver in high concentrations suitable for intra-muscular administrations.
11. Production of Ammonium Carbonate from Ammonia and sulphate of ammonia.
12. Study of Citric acid fermentation of sugar.

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